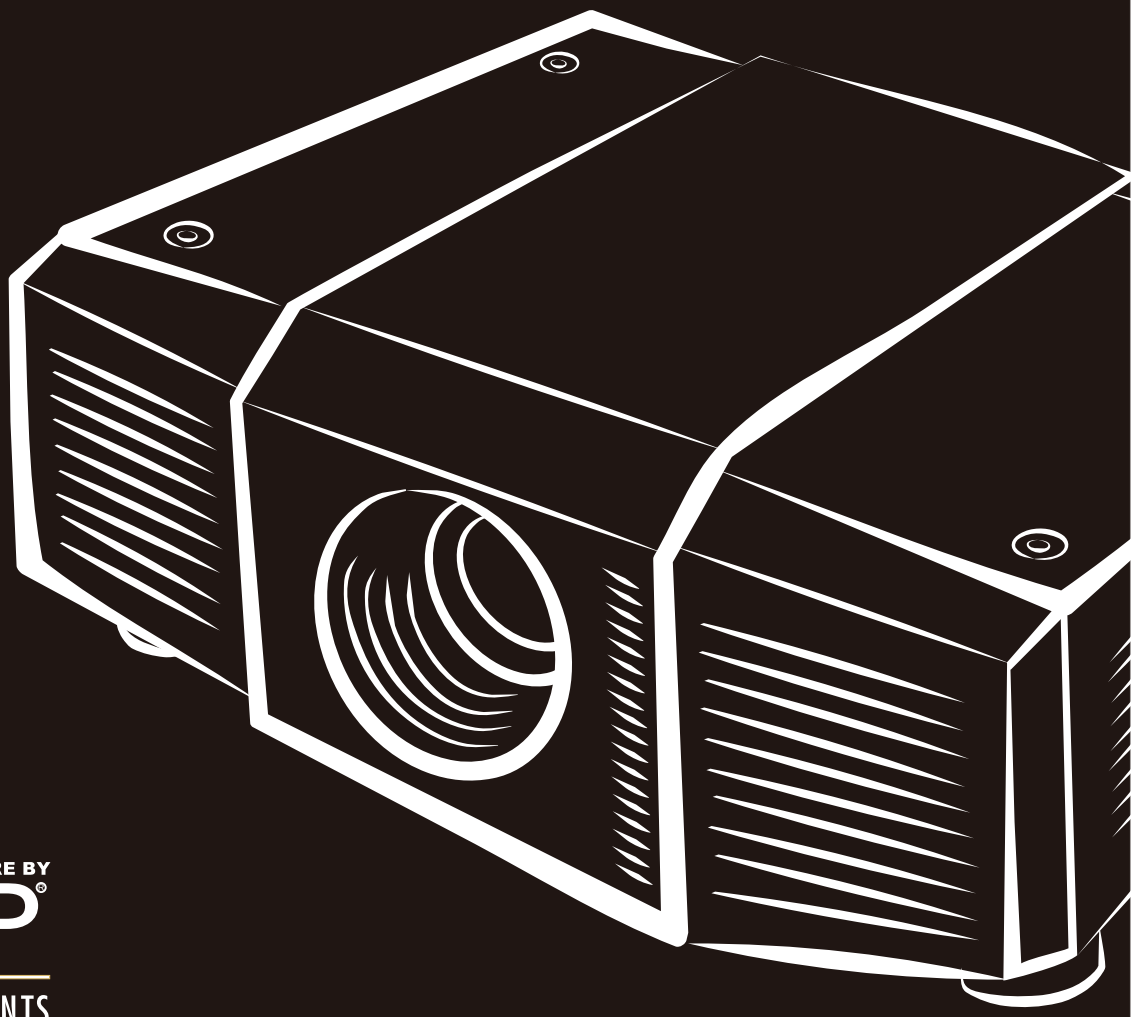
vivitek®
Vivid Color, Vivid Life

User's Manual

D8800 Series



PICTURE BY DLP®
TEXAS INSTRUMENTS

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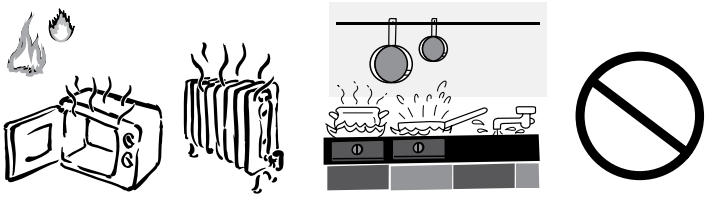
About this manual

This manual is intended for end users and describes how to install and operate the DLP projector. Wherever possible, relevant information such as an illustration and its description has been kept on one page. This printer-friendly format is both for your convenience and to help save paper, thereby protecting the environment. It is suggested that you only print sections that are relevant to your needs.

IMPORTANT SAFETY INSTRUCTIONS

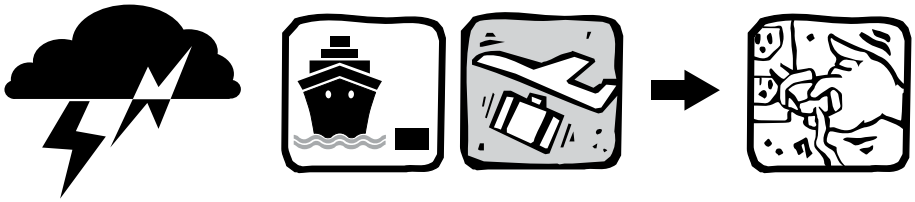
Thank you for your purchase of this quality product! For best performance, please read this manual carefully as it is your guide through the menus and operation.

1. Read and Keep these instructions.
2. Heed all warnings.
3. Follow all instructions.
4. Do not use this apparatus near water. And not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



5. Clean only with a dry cloth.
6. Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for the replacement of the obsolete outlet.
8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
9. Only use the attachments/accessories specified by the manufacturer.
10. Use only with a cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus to avoid injury from tip-over.

11. Unplug this apparatus during lightning storms or when unused for long periods of time.

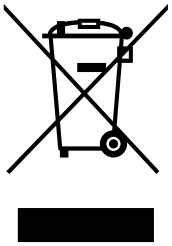


12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
13. The +12V trigger only outputs 12V DC signal for triggering. Do not connect to any other power input or output. This could cause damage to this unit.
14. Keep the packing material in case the equipment should ever need to be shipped.
15. Never look into the lens when the projector is on.

Disposal of old electrical and electronic equipment

(Applicable throughout the European Union and other European countries with separate collection programs)

This symbol found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed over to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.



Important Recycle Instructions:

Lamp(s) inside this product contain mercury. This product may contain other electronic waste that can be hazardous if not disposed of properly. Recycle or dispose in accordance with local, state, or federal Laws. For more information, contact the Electronic Industries Alliance at WWW.EIAE.ORG. For lamp specific disposal information check WWW.LAMPRECYCLE.ORG.

INTRODUCTION

About This Manual

This User's Manual describes how to install, set up and operate the D8800/D8900/D8010W. Throughout this manual, the Projector is referred to as the "D8800/D8900/D8010W."

Target Audience Vivitek has prepared this manual to help installers and end users get the most out of the D8800/D8900/D8010W. Vivitek has made every effort to ensure that this manual is accurate as of the date it was printed. However, because of ongoing product improvements and customer feedback, it may require updating from time to time. You can always find the latest version of this and other Vivitek product manuals on-line, at www.vivitekcorp.com.

Description, Features and Benefits

The Vivitek D8800/D8900/D8010W provide state-of-the-art technology for full HD (1920 x 1200, WUXGA 16:10) native resolution for crystal clear, pristine images. The D8800/D8900/D8010W offer incredibly high definition images at today's highest avail-able resolutions. Equipped with precision optics, the D8800/D8900/D8010W include zoom, focus and lens shift controls for a throw range of 1.85:1 to 2.40:1. For a smaller throw distance (1.56:1 to 1.86:1), the D8800/D8900/D8010W can be fitted with a varying optics package (optional) to meet different requirements. Exceptional scaling and film-to-video (3:2 pull-down) conversion is easily achieved. Combined with Vivitek's sophisticated parameters for white balancing, the D8800/D8900/D8010W's proprietary de-interlacing technology provides the highest level of development for gray-scale and color balancing and artifact-free images. Completing this engineering marvel are discrete infrared (IR) and RS-232 control, power and source selection controls for seamless, flexible operation.

Key Features and Benefits

The D8800/D8900/D8010W offer these key features and benefits:

- Native Resolution: 1920 x 1080 (16:10 Native Aspect Ratio).
- DLP system using high-performance Digital Micromirror Device (DMD).
- HDMI 1.3 Input with High-bandwidth Digital Content Protection (HDCP).
- HDTV Compatible.
- Excellent Video Processing on progressive and interlaced video inputs.

Green Product with:

- Lead free solder used for soldering including circuit and component electronics.
- Lead free glasses and coatings.
- Recycled paper used in the user manuals and packing cartons.
- Energy Saving: High efficiency power switching and less than 0.5W power consumption in standby mode.

■ Additional Features of the D8800/D8900/D8010W

— Horizontal and vertical lens shift.

— Keystone adjustment.

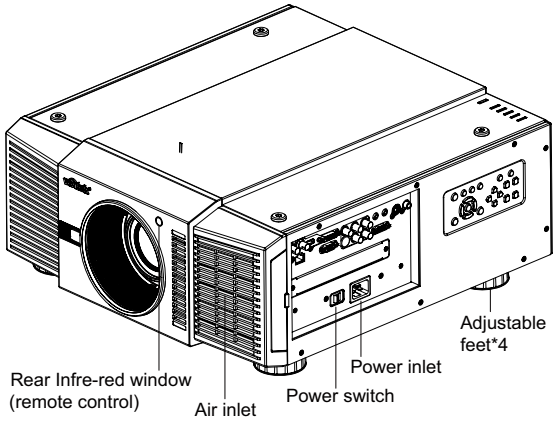
PARTS LIST

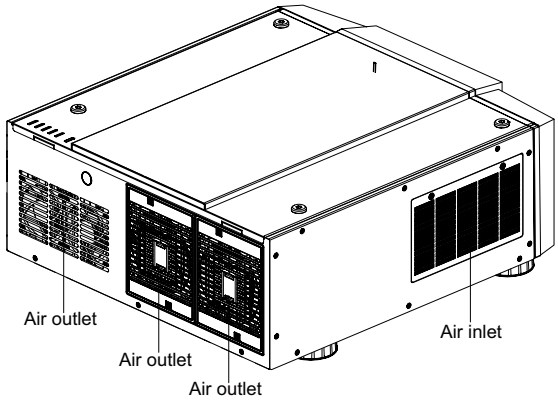
Your D8800/D8900/D8010W is shipped with the following items, if any items are missing or damaged, please contact your dealer or Vivitek Customer Service.

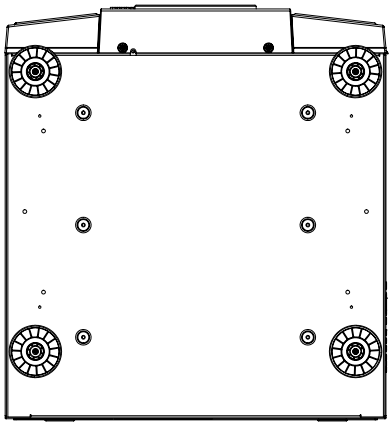
Accessory Box List			D8800/D8900/D8010W	
Item	Manual Assy	Q'ty	EU/ASIA/US/TWN	China
1	CD-ROM	1	●	●
2	WARRANTY CARD (US/EUR)	1	●	-
3	WARRANTY CARD (CN)	1	-	●
4	RoHS Card (CN)	1	-	●
5	QC Pass Card (CN)	1	-	●
6	Important Information (CN)	1	●	●
7	POWER CORD 125Vac USA	1	●	-
8	POWER CORD 250Vac EUR	1	●	-
9	POWER CORD 250Vac CHINA	1	-	●
10	VGA Signal cable	1	●	●
11	SCREW M M4*0.7*70 PAN C SUS	1	●	●
12	BATTERY	2	●	●
13	REMOTE	1	●	●
14	MODULE COLOR TYPE COLOR WHEEL	1	●	●

CONTROLS AND FUNCTIONS

D8800/D8900/D8010W at a Glance







— **Air outlet**
Warm air exits the projector through this vent. Ensure that it is not blocked.

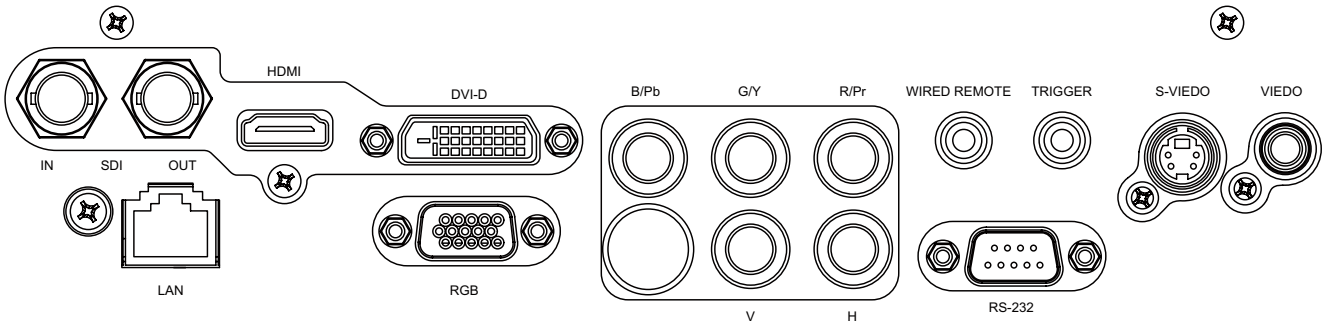
— **Air inlet**
Internal fans draw cool air into the projector through this vent.

— **Adjustable feet**
Use these when the projector is installed in a table-top configuration to level the image and/or adjust the projection angle.

— **Power Inlet**
For input power from wall outlet to projector.

— **Rear Infre-red window**
For receive the remote controller's message.

I/O Panel



— **SDI**
Connect a BNC cable from a serial digital interface (SDI) device.

— **HDMI**
Connect an HDMI source.

— **DVI**
Connect a DVI source.

— **Component**
Connect a Component (YUV HS/VS-CS) source.

— **WIRED REMOTE**
Wired input from a Niles- or Xantech-compatible, infrared (IR) repeater system.

— **TRIGGER**
(3.5-mm, mini phone jack) Offers 12 (+/- 1.5) V of output for 350mA monitor relay with short circuit protection.

— **S-VIDEO**
A standard S-Video input for connecting a DVD player, satellite receiver or Super VHS (S-VHS) VCR.

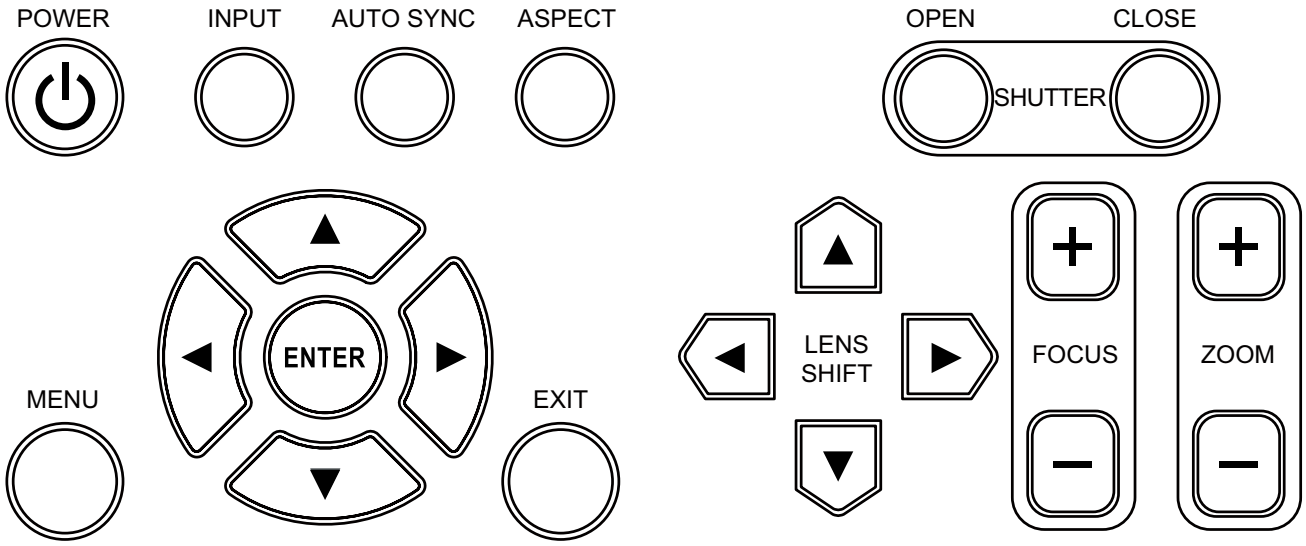
— **VIDEO**
Standard composite video input for connecting a VCR, laser disc player or other composite video source. Also provides composite sync input for RGBS sources.

— **LAN**
Connect an RJ45 ethernet cable.

— **RGB**
Provides a standard, 15-pin VGA-style connection to either an RGB or component high-definition source, or to a personal computer.
The D8800/D8900/D8010W automatically detect the input signal resolution.

— **RS-232**
9-pin D-sub connector for interfacing with a PC or home theater automation/control system.

KEYPAD



— POWER
Use the button to turn on/off the projector.

— INPUT
Press to select a video source. HDMI, DVI, VGA, Component / BNC Composite, S-Video or 3D-SGI.

Press this to re-acquire the current active source.

— ASPECT
Press this to change the aspect ratio of the current image.

— SHUTTER
Use the buttons to turn on/off shutter.

— MENU
Press this button to show or hide the OSD menu.

— ENTER, ▲, ▼, ◀, ▶
Use these buttons to select items or settings, adjust settings or switch display patterns.

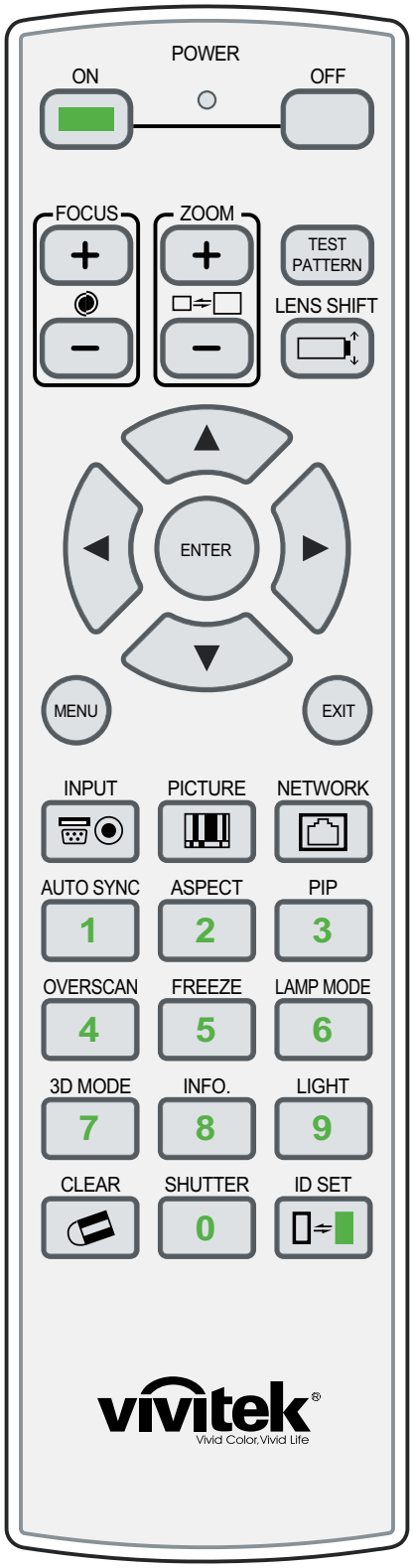
— EXIT
Press this to go one menu higher or exit the OSD menu.

— LENS SHIFT
Button to shift control of the lens, up/down or left/right.

— FOCUS
Button to focus the projected image.

— ZOOM
Button to zoom in/out the lens.

Remote control



— **ON**
Use this button to turn the projector on.

— **OFF**
Use this button to turn the projector off.

— **FOCUS**
Focuses the projected images.

— **ZOOM**
Zoom in/out the projected image.

— **TEST PATTERN**
Use this to enter test pattern menu.

— **LENS SHIFT**
Button to shift control of the lens, up/down or left/right.

— **ENTER, ▲, ▼, ◀, ▶**
Use these buttons to select items or settings, adjust settings or switch display patterns. ENTER: Press to select a highlighted menu item or confirm a changed setting.

— **MENU**
Press this button to show or hide the OSD menu.

— **EXIT**
Press this to go one menu higher or exit the OSD menu.

— **INPUT**
Press to select a input source.

— **PICTURE**
Starts the PICTURE function.

— **NETWORK**
Press this to enter the Network (LAN) menu.

— **AUTO SYNC**
Press this to re-acquire the current active source.

— **ASPECT**
Selection Button: Press this button repeatedly to select one of the following aspect ratios: 16 : 9: For viewing 16:9 DVDs or HDTV programs in their native aspect ratio.

— **PIP**
Press this to display the picture-in-picture screen.

— **OVERSCAN**
Press to select an overscan mode.

— **FREEZE**
Freeze/unfreezes the on-screen picture.

— **LAMP MODE**
Press this to select a higher or lower brightness setting.

— **3D MODE**
This function is not available for this model.

— **INFO.**
Starts the SERVICE function.

— **LIGHT**
Press this to turn on remote control backlight.

— **CLEAR**
Not available

— **SHUTTER**
Use the button to turn on/off shutter.

— **ID SET**
Not available

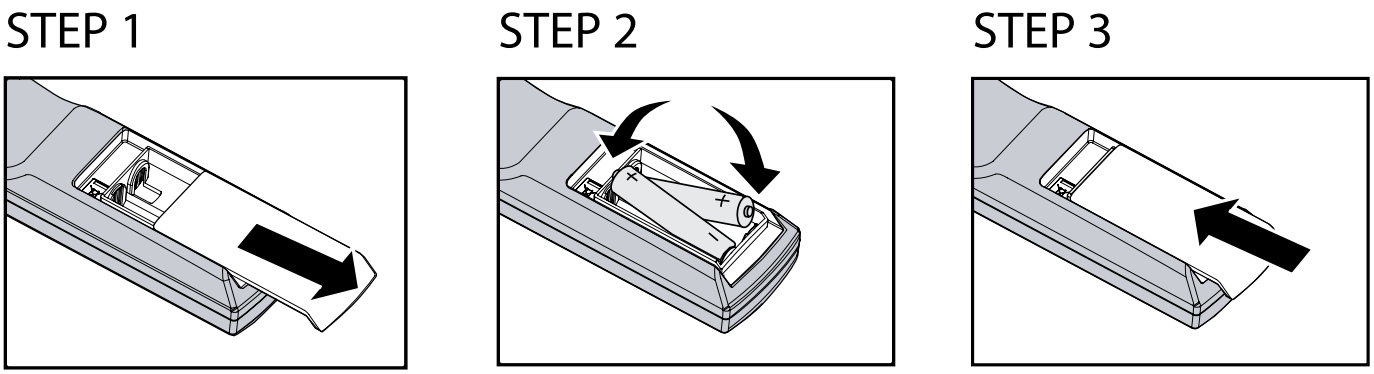
Notes on Remote Control Operation

— *In most situations, you can simply point the remote control at the screen which will reflect the IR signal from the re-mote back toward the IR receiver on the projector. In some cases, however, ambient conditions may prevent this. If so, point the remote control at the projector and try again.*

— *If the effective range of the remote control decreases, or it stops working, replace the batteries with new ones.*

— *The remote control may fail to operate if the infrared remote sensor is exposed to bright sunlight or fluorescent lighting.*

To install batteries in the remote control



1. Slide the battery compartment cover in the direction of the arrow to remove it.
2. Install two AA batteries with the correct polarity.
3. Replace the cover.

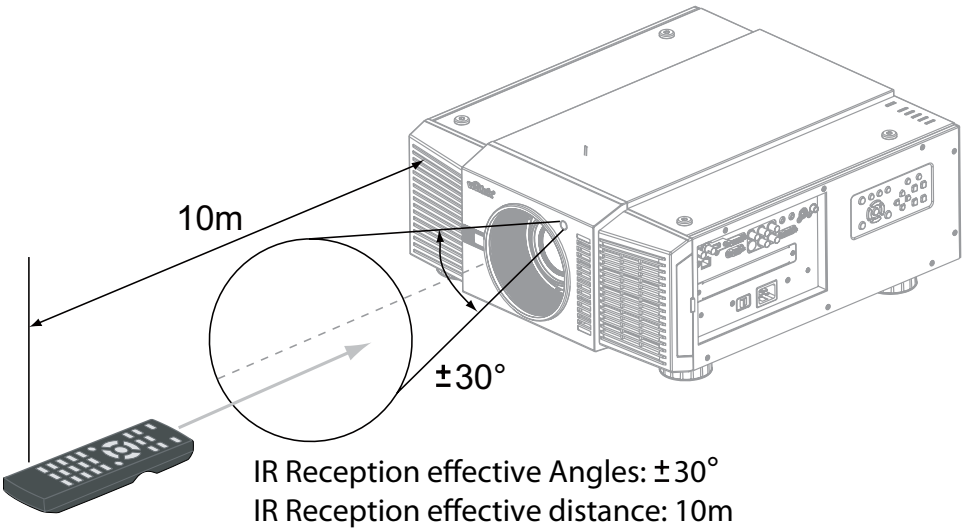
Notes on Batteries

— *Make sure that the battery polarities are correct when installing the batteries.*

— *Do not mix an old battery with a new one or different types of batteries.*

— *If you will not use the remote control for a long time, remove the batteries to avoid damage from battery leakage.*

Range of effective remote control signal reception



Note:
Avoid placing the remote control at places of high temperature or humidity as it could cause the remote control to malfunction.

Installation Considerations

Proper installation of your projector will ensure the quality of your display. Whether you are installing a projector temporarily or permanently, you should take the following into account to ensure your projector performs optimally.

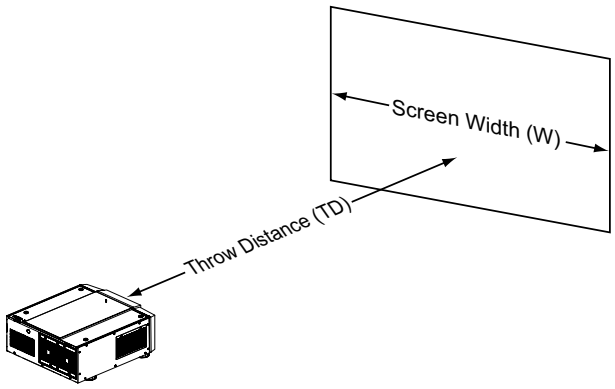
Ambient Light

In general, minimize or eliminate light sources directed at the screen. Contrast ratio in your images will be noticeably reduced if light directly strikes the screen, such as when a shaft of light from a window or floodlight falls on the image. Images may then appear washed out and less vibrant.
Requires separate room Installation cost is usually higher.

Throw Distance

Throw distance is the distance measured from the front of the projector to the screen. This is an important calculation in any projector installation as it determines whether or not you have enough room to install your projector with a de-sired screen size and if your image will be the right size for your screen. You can quickly estimate the throw distance by taking the width of the screen and multiplying it by the lens throw ratio; see the image as following. The result of this calculation tells you roughly how far back the projector should be positioned from the screen in order to project a focused image large enough to fill the screen.

Throw Distance (TD) = Screen Width (W) x Throw Ratio (TR)



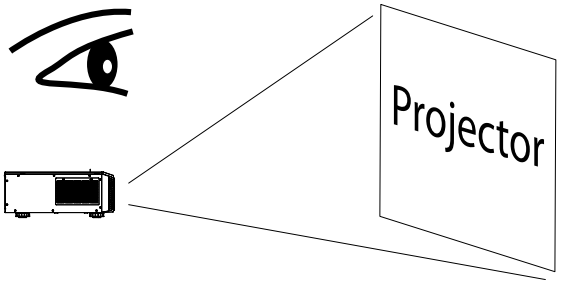
Two models of the D8800/D8900/D8010W are available, one with 1.56-1.86:1 lens and the other with 1.85-2.40:1 lens With optional zoom adaptors throw ratios of 1.24 – 3.0 can be achieved. The standard D8800/D8900/D8010W offer throw ratios between 1.85:1 and 2.40:1. With the optional, short-throw lens, the D8800/D8900/D8010W offer throw ratios between 1.56:1 and 1.86:1.

Modes of installation

Frontal projection - desktop installation

Advantages: easy to install can be easily moved or adjusted easy to operate.

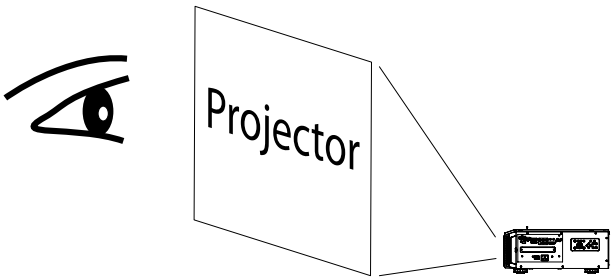
Disadvantage: occupies floor space and limits seating capacity.



Rear projection - desktop installation

Advantage: the projector is completely hidden from plain view the projector can be easily operated this setup usually offers better reduction of ambient noise.

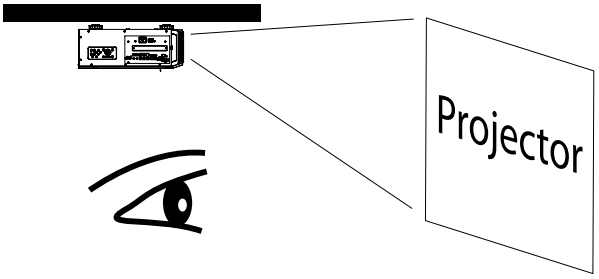
Disadvantage: requires an additional room for installation relatively higher costs for installation.



Frontal projection - ceiling mode

Advantage: does not occupy floor space does not draw attention to it. Eliminates the possibility that someone would accidentally move the projector.

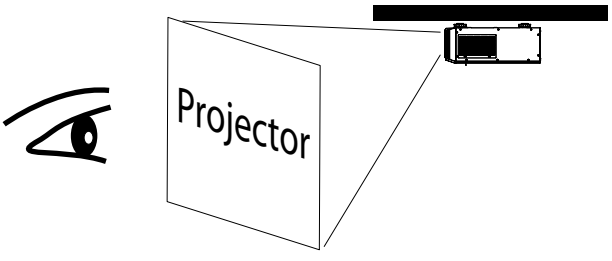
Disadvantage: stricter installation requirements and conditions; care should be taken during the installation to ensure the projector has been securely mounted. Operation of the projector becomes inconvenient without the remote control.



Rear projection - ceiling mode

Advantage: the projector is completely hidden from plain view this setup usually offers better reduction of ambient noise.

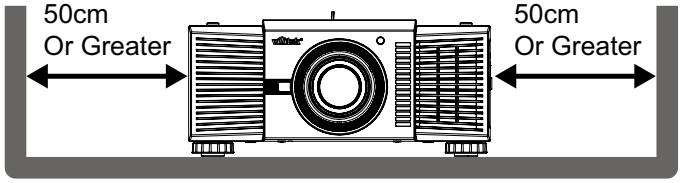
Disadvantage: requires an additional room for installation. Stricter installation requirements and conditions; care should be taken during the installation to ensure the projector has been securely mounted. Operation of the projector becomes inconvenient without the remote control.



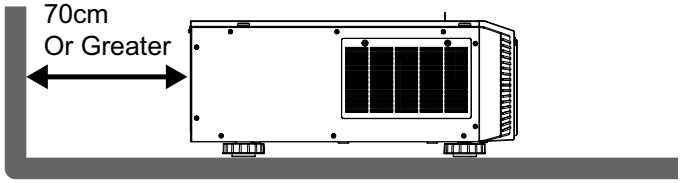
Allow at least 50 cm clearance around the exhaust vent.

The device need to have enough space to prevent issues as stated in this image.

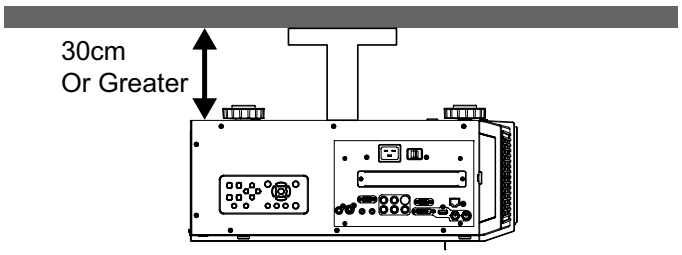
Side Way



Back Side



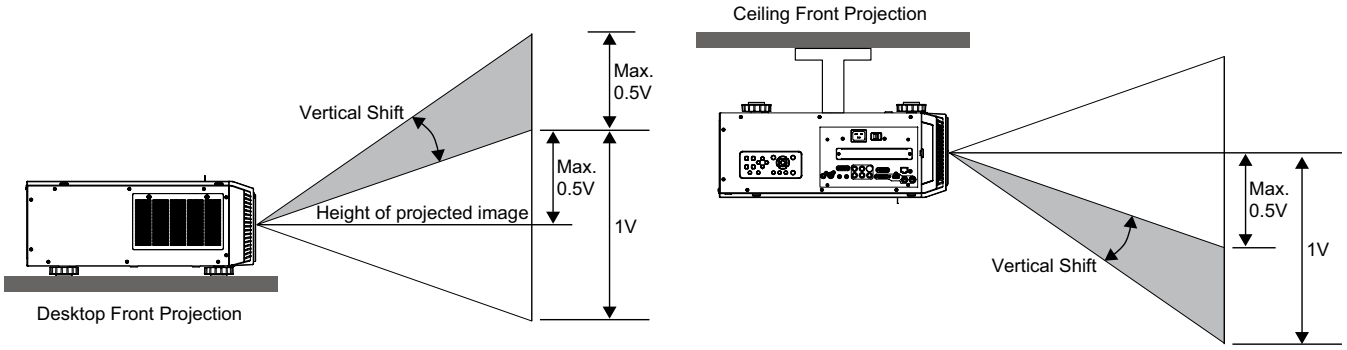
Celling Mount



Lens Shift

Vertical Lens Shift

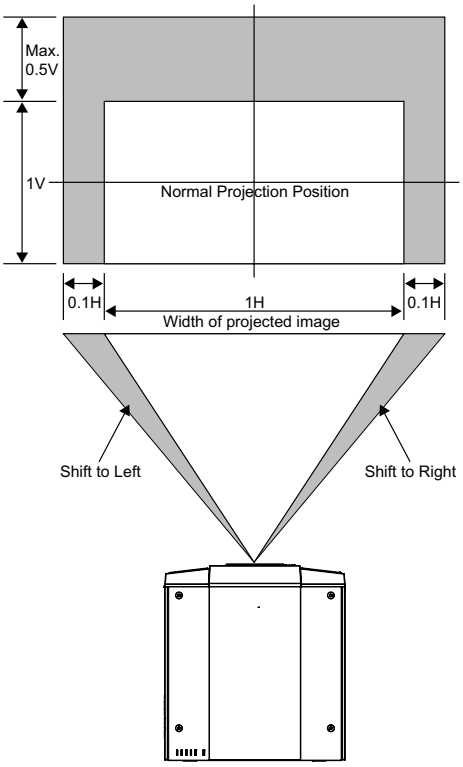
The D8800/D8900/D8010W have a lens shift capability which allows the vertical movement of the image without moving the projector. Lens shift is generally expressed as a percentage of the screen height. For ceiling mounted projectors, the lens can be moved 50% (0.5V) downward, while the lens can be moved 50% (0.5V) up or down on a desktop mounted projector.



Note:
This is a general example of lens shift. Lenses vary in their shift capabilities. No particular lens or projector is used in this example.

Horizontal Lens Shift

The D8800/D8900/D8010W have a lens shift capability which allows the horizontal movement of the image without moving the projector. The lens can be moved 10% (0.1H) to the right or left within the housing.

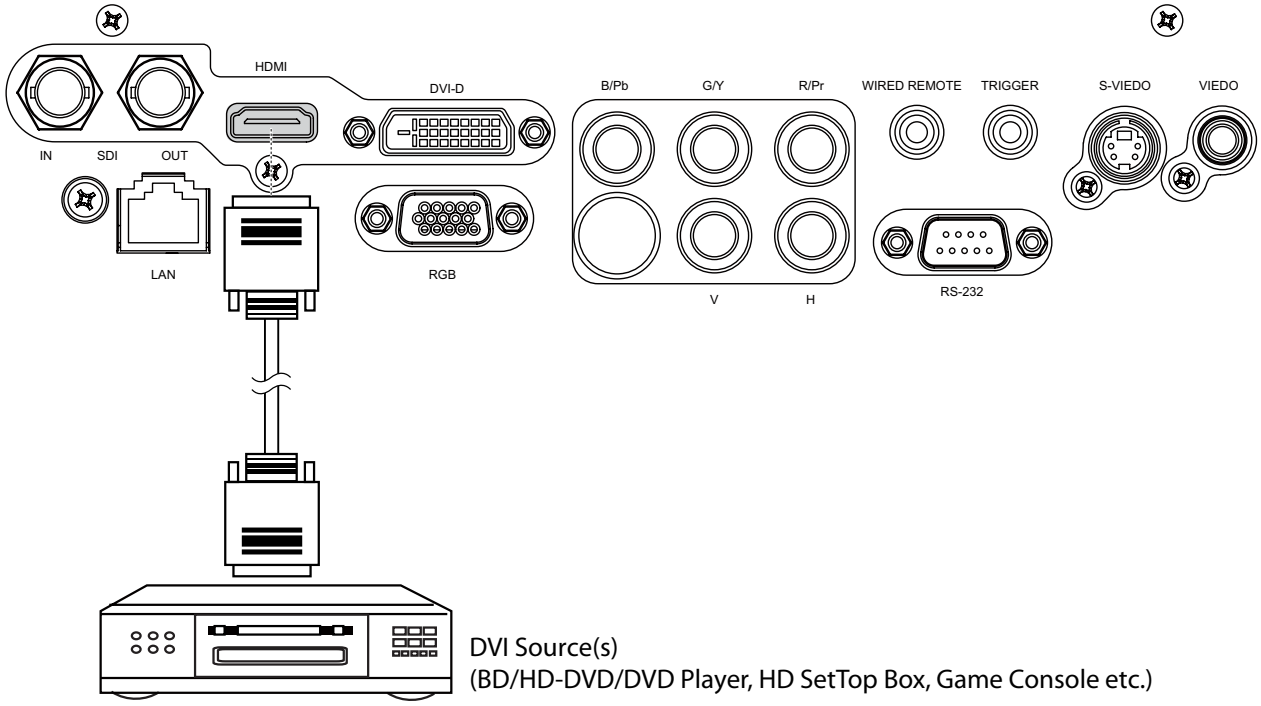


Note::
This is a general example of lens shift. Lenses vary in their shift capabilities. No particular lens or projector is used in this example.

Connecting the projector to other devices.

Proceed as follows to connect the D8800/D8900/D8010W to your video sources, external controller(s) - if present - and AC power. When connecting your equipment: •Use the correct signal cables for each source. •Ensure that the cables are securely connected. Tighten the thumbscrews on connectors that have them. Connecting Source Components to the D8800/D8900/D8010W Connect your video sources to the D8800/D8900/D8010W as shown and described in the sections that follow.

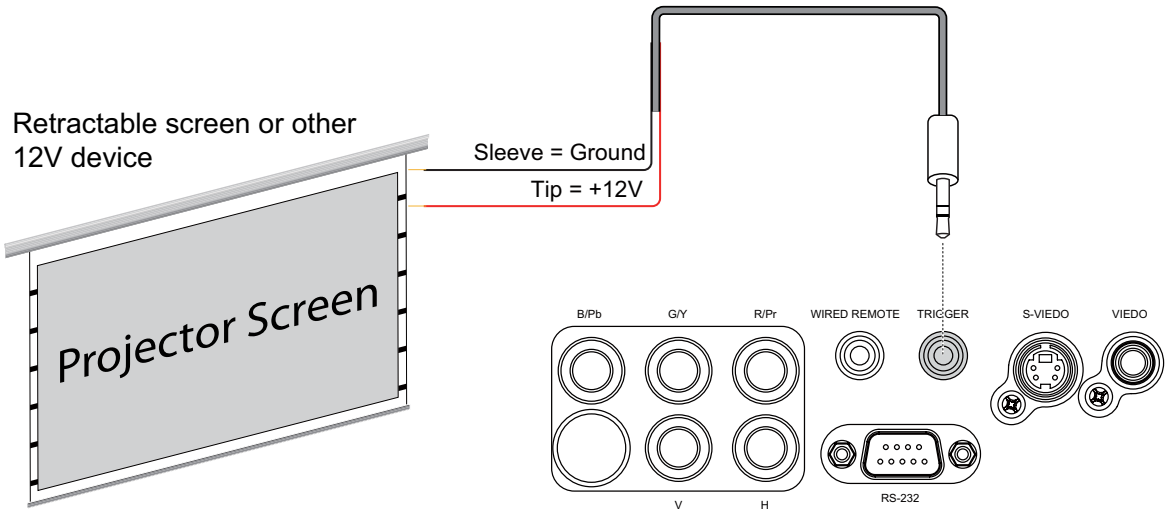
HDMI Connection



DVI Source(s)
(BD/HD-DVD/DVD Player, HD SetTop Box, Game Console etc.)

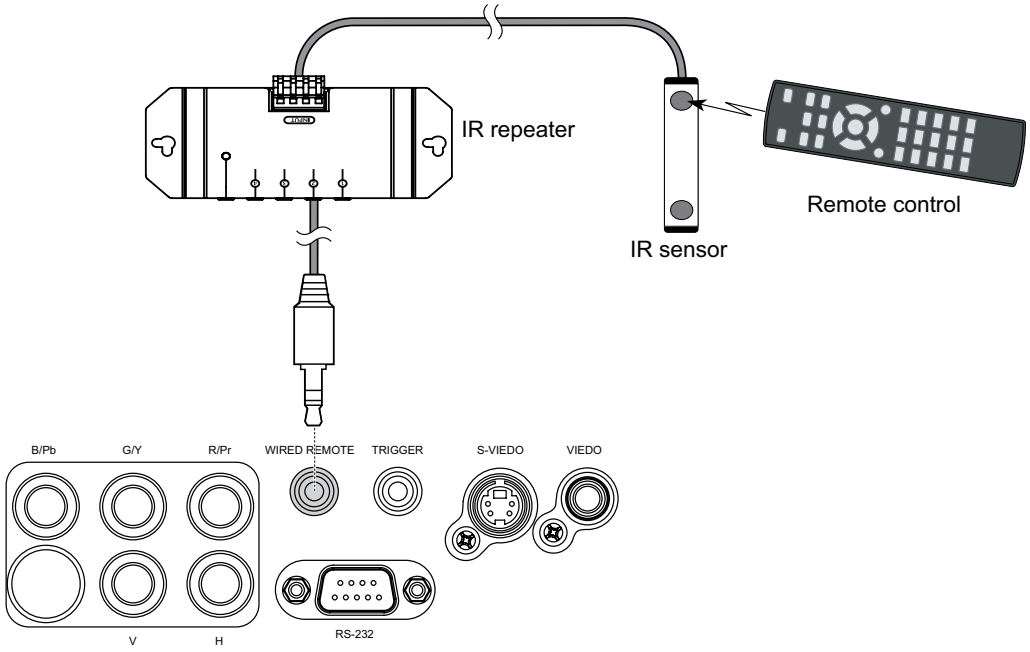
Trigger connection

If your home theatre system includes a projector screen, screen cover or other 12V Trigger equipment, please connect such device/equipment to the projector's 12V Trigger output as illustrated. After you have done so, your screen will lower automatically whenever you turn on your projector for your convenience.



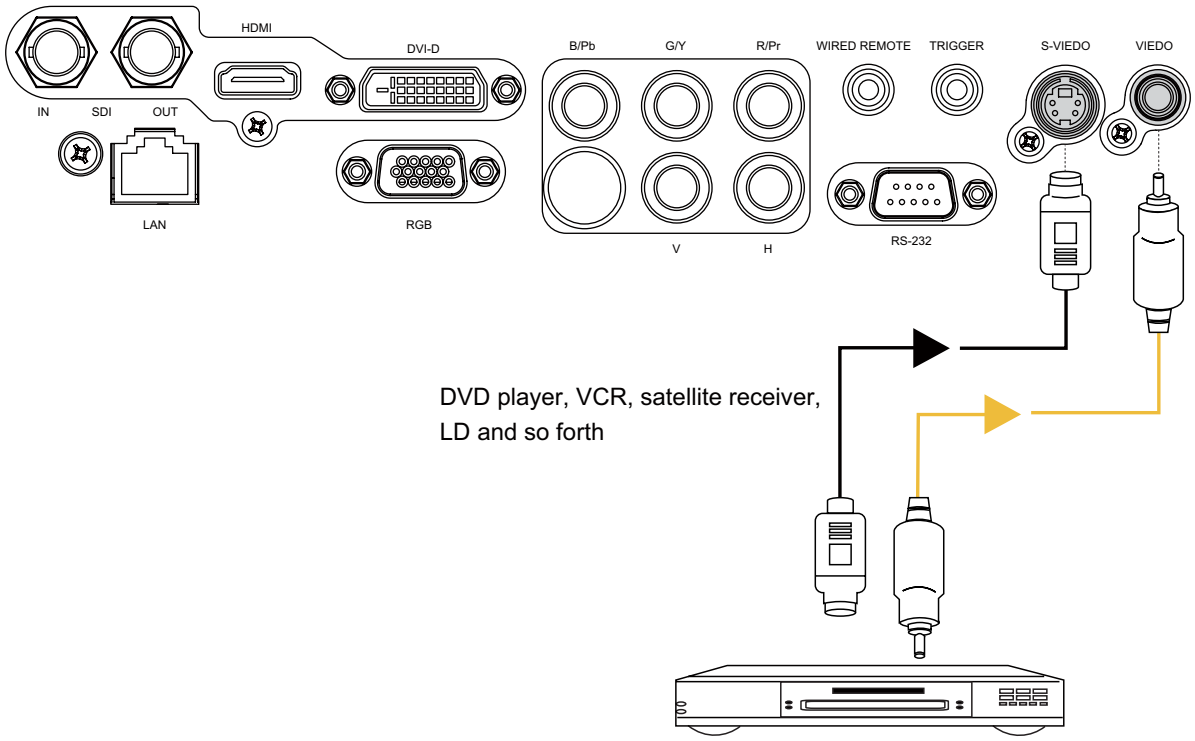
IR Input connection

If infrared signals from the remote control cannot reach the projector due to excessive distance or obstructions such as walls or cabinet doors, you can connect an external IR repeater system to the IR INPUT on the D8800/D8900/D8010W to extend the range of the remote control.



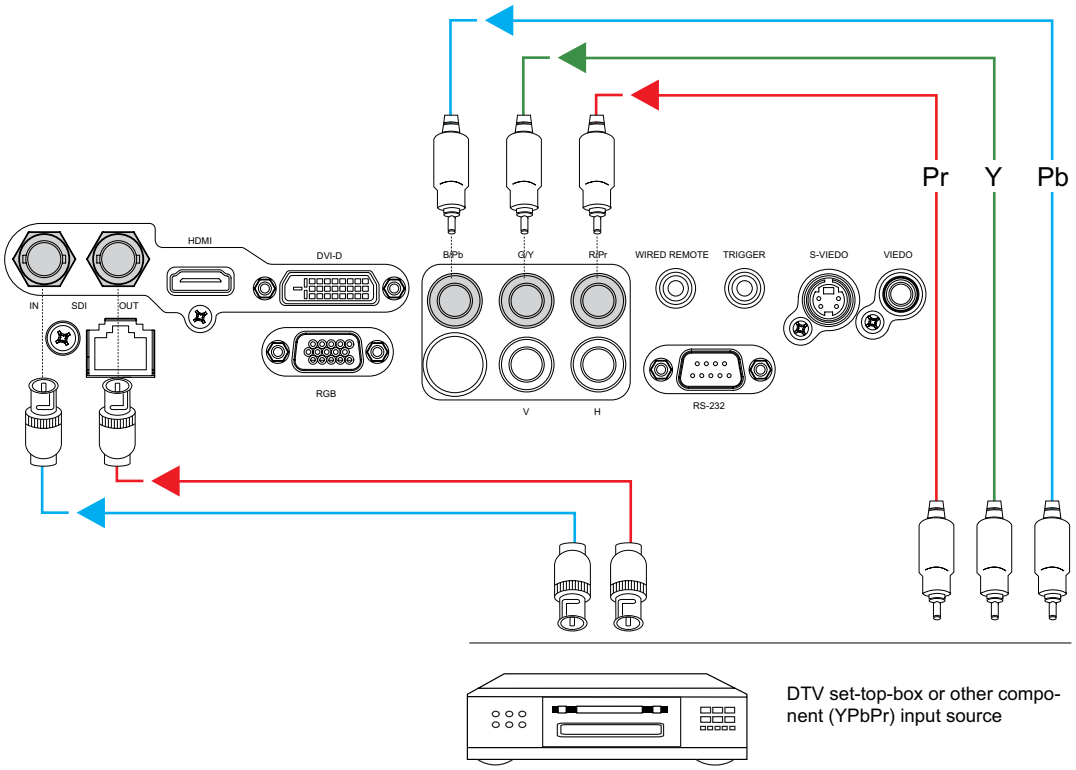
S-VIDEO, VIDEO connection

If the image input device offers both S-Video and Video connection, it is recommended that you choose S-Video to obtain better image quality. If both the S-Video and Video inputs are connected to the projector, the projector will prioritize S-Video signal input and image from the Video input will not be played.



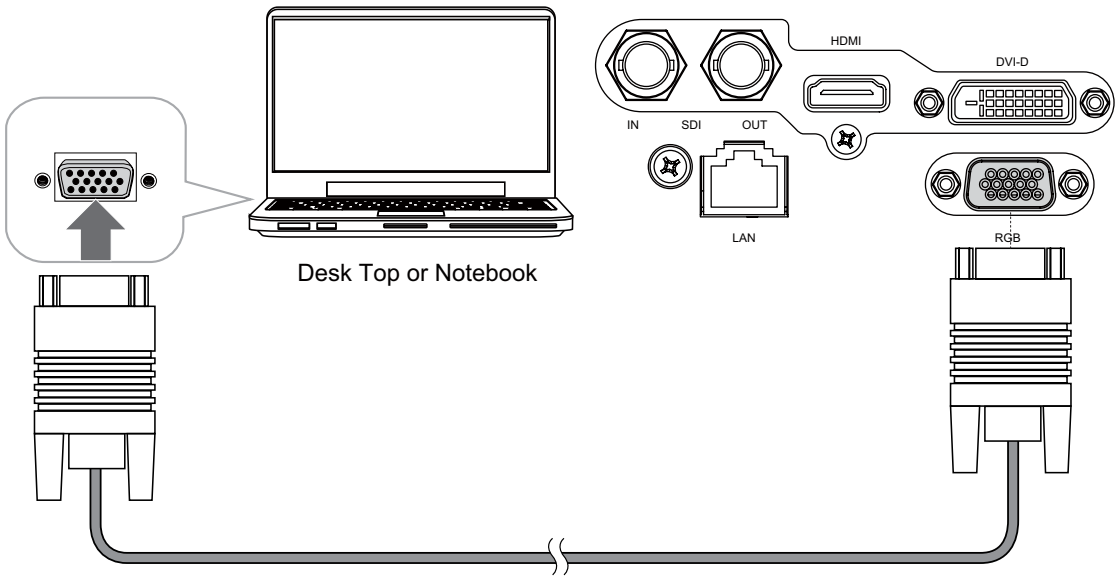
COMPONENT CONNECTION

Take the 3/5 cabled RGB component video connectors from the source equipment to the projector's COMPONENT jacks.



RS-232 CONNECTION

Connect a PC or home theater control/automation system (if present) to the RS-232 port on the D8800/D8900/D8010W. Use a standard, 9-pin serial cable, wired straight-through.

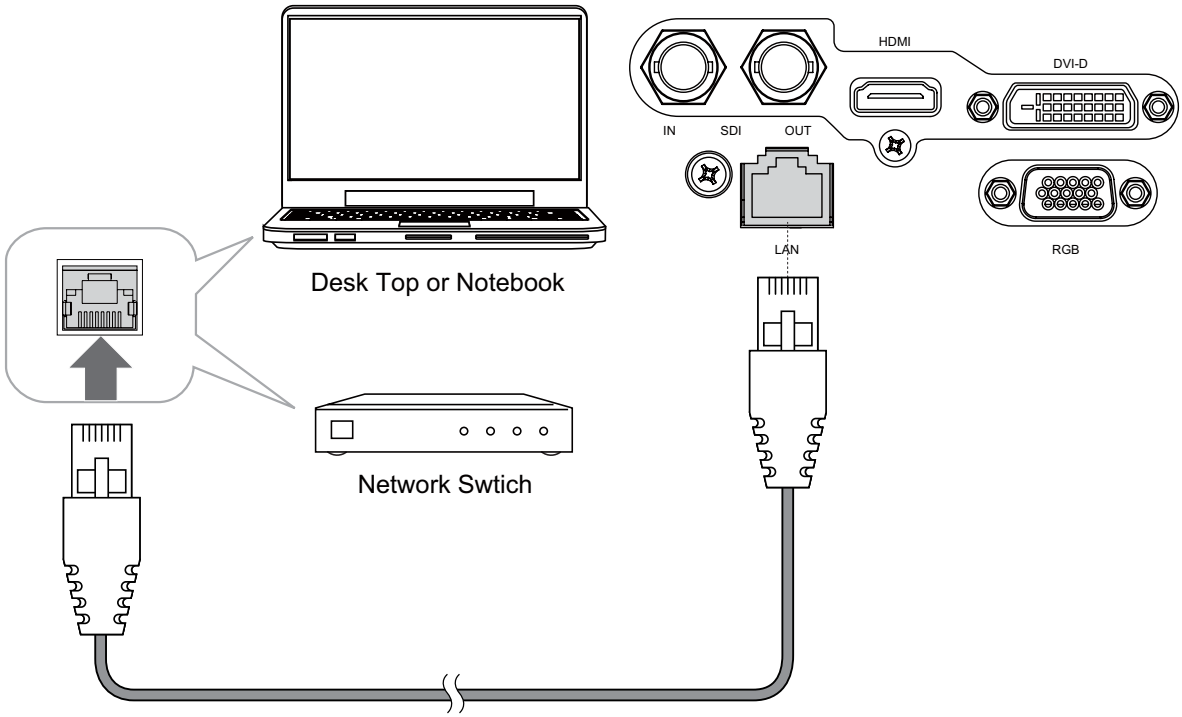


RS-232 INTERFACE AND REQUIREMENTS

The RS-232 Commands use only ASCII characters which can be entered using a typical terminal emulator like Windows HyperTerminal with the following setting:

Bits per second: 38400	Stop bits: 1
Data bits: 8	Flow control: None
Parity: None	

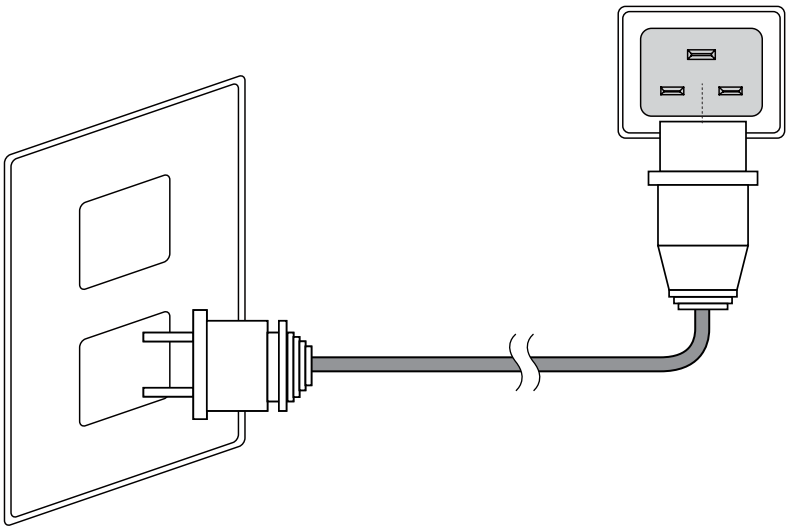
LAN Connection



Start using the projector - Adjustments

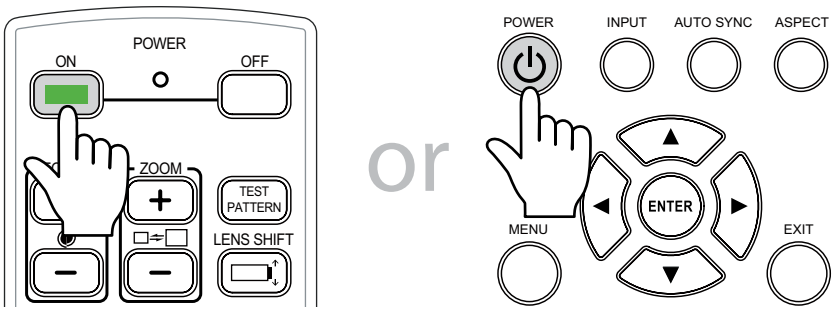
Connecting to AC Power

The D8800/D8900/D8010W ship with various types of AC power cords. Choose the one that is appropriate to your locale. Plug the female end of the power cord into the AC receptacle on the rear of the projector (AC 100V ~ 240V); Then, connect the other end to your AC power source.

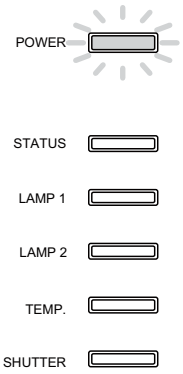


Turning on the Power

Press **POWER SWITCH** on the projector.
Press **ON** on remote control or **POWER** on the projector. The power LED indicator flashes green to indicate that it is warming up. When the projector is ready for use, the LED indicator turns off, and the projector lights.



Press Power



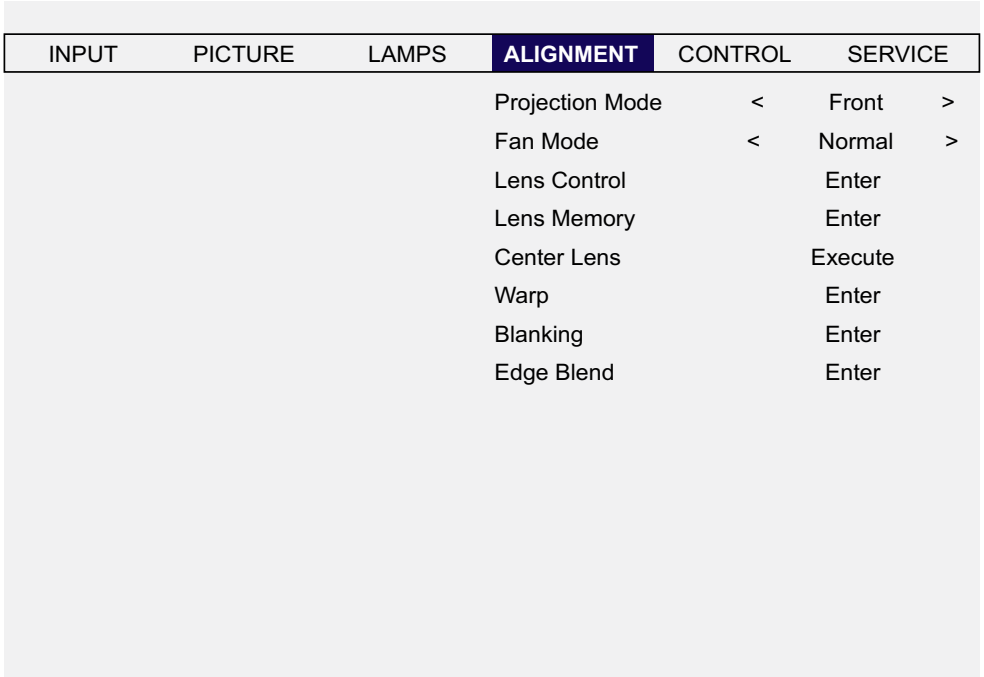
POWER LED
Flash Green clolor

Changing the OSD Language

The D8800/D8900/D8010W can display the menus in English, French, Spanish, German, Portuguese, Simplify Chinese, Traditional Chinese, Japanese or Korean. Press **MENU** to display the OSD, press ◀ ▶ to select **CONTROL** item. Then press ▲ ▼ to select **LANGUAGE** and press ▲ ▼ a language that you wanted. Then press **ENTER** to confirm your selection.

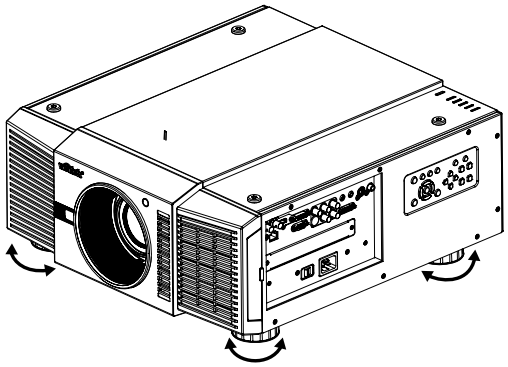
Adjusting the Picture Orientation

If the D8800/D8900/D8010W is installed behind the screen, you must change the picture orientation to match the installation method.
Refer to "Modes of installation" on page 15. To do this, press **MENU** on the remote control. Then select **ALIGNMENT** -> **Projection Mode** -> **Rear**.
If the projector is ceiling-mounted, the D8800/D8900/D8010W will automatically inverts the image. If this automatic inversion is not desired, please select Ceiling Mode from the **Menu** -> **ALIGNMENT** -> **Projection Mode** -> **Ceiling + Front** or **Ceiling + Rear**.



Lens Adjustments

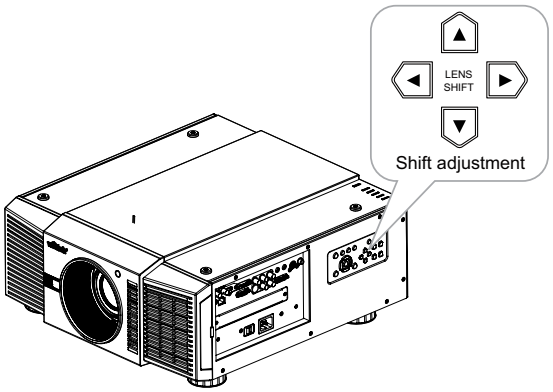
The D8800/D8900/D8010W gives you a great deal of control over the picture size, position and focus. Focus To focus the projected image, grasp the lens by the front ring and rotate it.



Adjust foot

Rotate the 4 feet on projector for image position.

Note:
Ceiling Mode can't adjust this function.

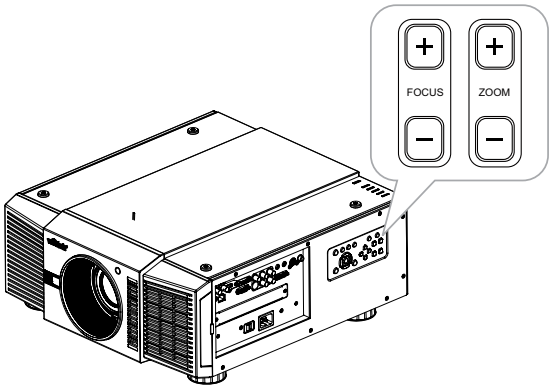


Vertical Lens Shift

To shift the projected image vertically, press ▲ ▼ on the keypad.
Range: Up, 50%; Down, 0%.

Horizontal Lens Shift

To shift the projected image horizontally, press ◀ ▶ on the keypad.
Range: Right, 10%; Left, 10%.



Zoom

To make the picture smaller (zoom out) or larger (zoom in).
Press **ZOOM** on the keypad the appropriate direction.

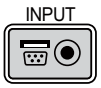
Focus

To make the picture clear or Fuzzy.
To focus the current image, press **FOCUS** on the keypad appropriate direction.

Start using the projector - Operation

Selecting An Input Source

When you turn on the D8800/D8900/D8010W, it switches to the last selected input and looks for a valid signal. Press **INPUT** on the remote control to select an input source directly.



Selecting an Aspect Ratio

Press **ASPECT** to adjust the video aspect ratio.

Using the OSD

1. Press the **MENU** button on the remote control or machine top cover's keypad to display the OSD main menu.
2. Press ◀ or ▶ to select a sub-menu.
3. Press ▲ or ▼ to select a sub-menu item.
4. For each sub-menu item, the currently-selected value is highlighted. Press ▲ or ▼ to choose a setting for that item, and press **ENTER** on the remote controller or **SELECT** on the keypad to adjust the value of that item.
5. If want return to the previous menu, please press **MENU**.
6. In the Main Menu, press **MENU** to turn off the OSD menu. The D8800/D8900/D8010W OSD menus are arranged.

Start using the projector - OSD Introduction

OSD Menu Tree

INPUT	Input Selection	HDMI DVI VGA Component / BNC Composite S-Video 3G-SDI
	PIP	PIP Option PIP Input PIP Swap Position
	Test Pattern	Color Bar Crosshatch Burst Res Green Blue White Black Uncorrected Red Uncorrected Green Uncorrected Blue H Ramp Off
	Color Space	Auto YCbCr YPbPr RGB-PC RGB-Video
	Input Lock	Auto 48Hz 50Hz 60Hz
	Background	Logo Blue Black White
	Video Standard	Auto PAL SECAM NTSC
	Auto Sync Adjust	Off Auto Always

PICTURE	Display Mode	High Bright Presentation Video
	Contrast	0~200
	Brightness	
	Adaptive Contrast	On Off
	Saturation	0~200
	Hue	
	Gamma	Film Graphics Video
	Color	Color Temperature Trim
	Sharpness	0~200
	Noise Reduction	
	Aspect Ratio	5:4 4:3 16:10 16:9 1.88 2.35 Letterbox Native Unscaled
	Overscan	Off Crop Zoom
	VGA Setup	H Total H Start H Phase V Start
	Auto Sync	Execute

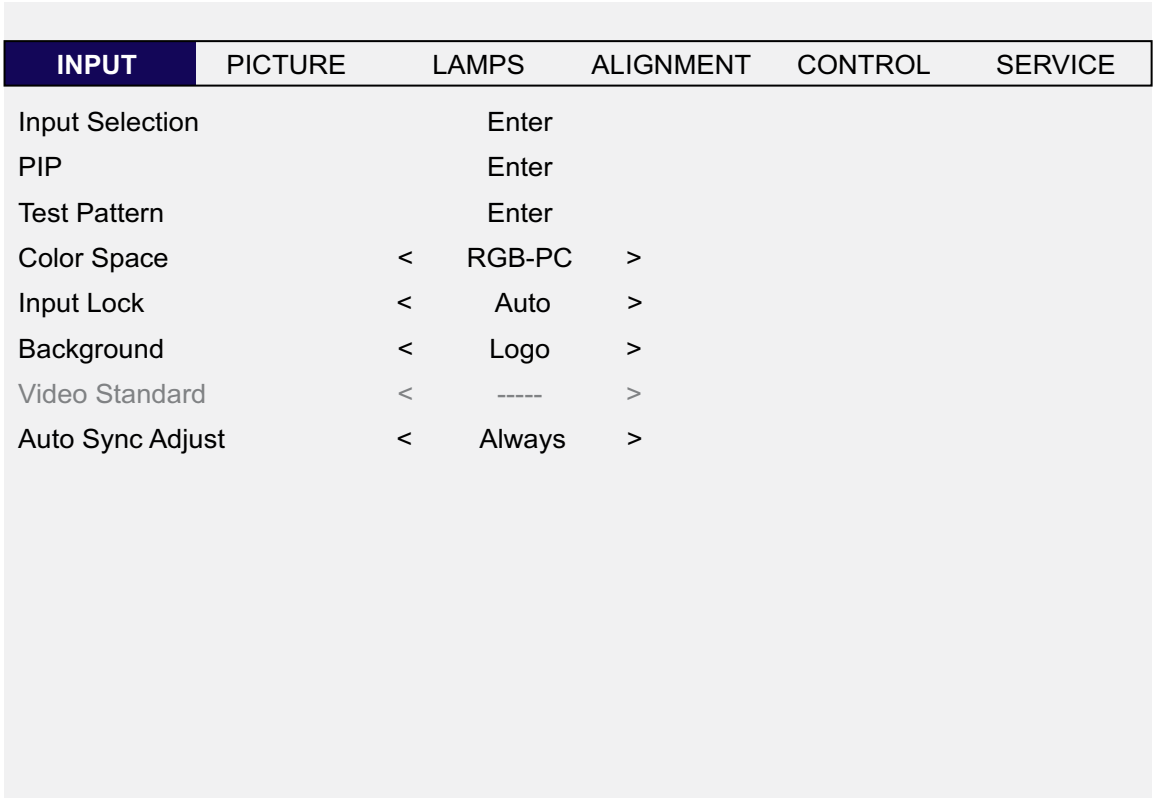
LAMP	Mode	Single Dual
	Power	Eco Normal Custom Power Level
	High Altitude	On Off
	Custom Power Level	80.4%~100%
	Lamp 1 Status	On Off
	Lamp 2 Status	

ALIGNMENT	Projection Mode	Front Rear Ceiling + Front Ceiling + Rear
	Fan Mode	Normal Up Down
	Lens Control	Zoom Focus
	Lens Memory	Load Memory Save Memory
	Center Lens	Execute
	Warp	Keystone Rotation Pincushion / Barrel Top Left Corner Top Right Corner Bottom Left Corner Bottom Right Corner Custom Warp Reset
	Blanking	Top Bottom Left Right Reset
	Edge Blend	Edge Blend Blend Width Black Level Uplift Reset

CONTROL	Eco Network Power	Standard Eco
	Auto Power Off	On Off
	Auto Power On	
	Projector Control	RS232 Network
	Network	IP Address Subnet mask Gateway DHCP
	Start Up Logo	On Off
	Trigger	5:4 4:3 16:10 16:9 1.88 2.35 Letterbox Native Unscaled Auto
	Auto Search	On Off
	Dynamic Black	
	Language	English Français Español Deutsch Português 简体中文 繁體中文 日本語 한국어

SERVICE	Model	
	Serial Number	
	Software Version	
	Active/PIP Source	
	Pixel Clock	
	Signal Format	
	H/V Refresh Rate	
	Lamp 1 Time	x HRS
	Lamp 2 Time	x HRS
	Power On Time	x HRS
	Blue Only	On Off
	Factory Reset	

OSD Introduction - INPUT



— **Input Selection**
This function is same as the hotkey which on Remote controller. You can use remote controller or this function to select the correct input source. Refer to "Selecting An Input Source" on page 25.

— **HDMI**
HDMI input from PC or media device.

— **DVI**
DVI input from PC.

— **VGA**
Analog RGB from PC.

— **Component / BNC**
Analog / serial digital interface from media device.

— **Composite**
Traditional composite video from media device.

— **S-Video**
Super video (Y/C seperated).

— **3G-SDI**
Uncompressed digital video from a serial connection (coaxial).

Timing	SDI Link mode	Signal Standards	Color Encode	Sampling Structure	Bit depth	Cable Length Tested
NTSC	SD	SMPTE 259M-C 270Mbps SD	YCbCr	4:2:2	10	128m
PAL	SD	SMPTE 259M-C 270Mbps SD	YCbCr	4:2:2	10	128m
1035i 60Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
1080i 59.94Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
1080i 60Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
1080P 30Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
1080P 25Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
1080P 50Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m

Timing	SDI Link mode	Signal Standards	Color Encode	Sampling Structure	Bit depth	Cable Length Tested
1080P 24Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
720P 60Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
720P 50Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
1080Sf 25Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
1080Sf 30Hz	HD-Single	SMPTE 292M292M 1.5Gbps HD	YCbCr	4:2:2	10	128m
1080P 50Hz	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:2	10	128m
1080P 59.94Hz	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:2	10	128m
1080P 60Hz	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:2	10	128m
1080P 50Hz	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:2	10	128m
1080P 59.94Hz	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:2	10	128m
1080P 60Hz	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:2	10	128m

Note:
Signals are not supplied for D8800/D8900/D8010W, if it is not in the table.

— **PIP**

You can use this function to display multiple windows each containing an image.

— **PIP Option**

Use this to turn the function On/Off.

— **PIP Input**

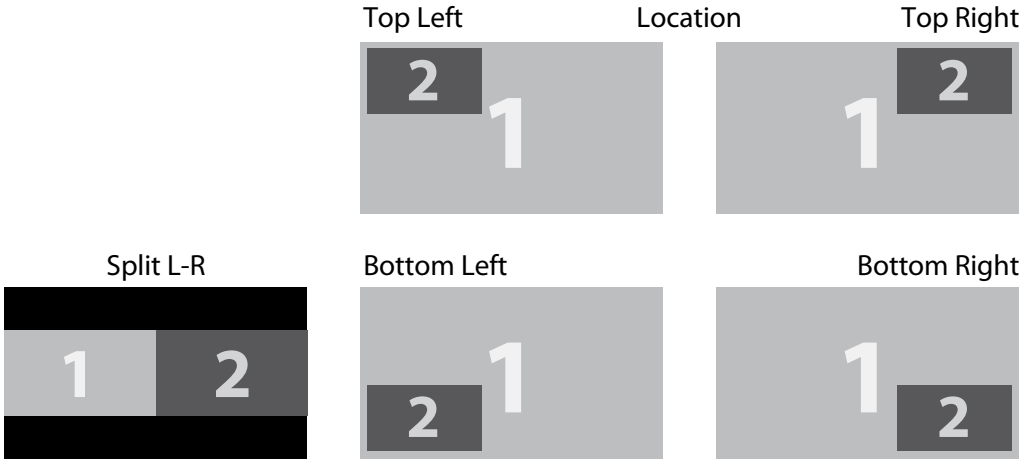
Use this to select the input.

— **PIP Swap**

Use this to exchange displayed images.

— **Position**

Use this to select the location of the PIP window (**Top left**, **Top Right**, **Bottom Left**, **Bottom Right**, or **Split L-R**).



Source	HDMI	DVI	RGB	BNC	S-Video	Video	HDSDI
HDMI	X	X	O	O	O	O	X
DVI	X	X	O	O	O	O	X
RGB	O	O	X	X	O	O	O
BNC	O	O	X	X	O	O	O
S-Video	O	O	O	O	X	X	O
Video	O	O	O	O	X	X	O
HDSDI	X	X	O	O	O	O	X

— **Test Pattern**

Select this to enter the display test function.

— **Color Space**
This function allows you to change component, composite, and RGB sources. You can select different color space for different color performance.

— The default setting, Auto, functions as follows:
HDMI: If the Auxiliary Video Information (AVI) infoframe contains color space and/or range data, the D8800/D8900/D8010W use that information. Otherwise, for RGB sources, the D8800/D8900/D8010W use the RGB-Video color space. For component SDTV and EDTV resolutions, REC601 is used. For other component video resolutions, REC709 is used.
RGB: If Hsync or Vsync signals are present, the D8800/D8900/D8010W use the RGB-PC color space. Otherwise, REC601 is used for SDTV and EDTV sources, and REC709 for all other sources.
Component: For SDTV and EDTV resolutions, the D8800/D8900/D8010W use the REC601 color space. For all other resolutions REC709 is used.

— In most cases, the Auto setting determines the correct color space to use. If it does not, you can force the D8800/D8900/D8010W to use a specific color space. Choose one of the following:
YCbCr uses component color space and sets black at 0,0,0 and white at 255,255,255.
YPbPr uses composite color space and sets black at 0,0,0 and white at 255,255,255.
RGB-PC uses RGB color space and sets black at 0,0,0 RGB and white at 255,255,255 RGB, assuming an 8-bit image.
RGB-Video uses RGB color space and sets black at 16,16,16 RGB and white at 235,235,235, assuming an 8-bit image, to correspond to the luminance values defined in digital component standards.

— **Input Lock**
Use this function to lock a source to an internal sync signal (Auto, 48Hz, 50Hz, or 60Hz). Auto setting locks the sync signal to the current source.

— **Background**
Use this function to specify the content or color to be displayed on the blank screen when no input signal is available. You can choose from **Logo, Blue, Black, White**. The default value is **Logo**.

— **Video Standard**
Different countries may use different video signal formats. Please choose the video standard in your area.

— **Auto**
The color systems are automatically identified and the format is set accordingly.

— **PAL** (Phase Alternation By Line)
This is the standard used in Europe, Australia and many other parts of the world, typically with a 50Hz frame rate.

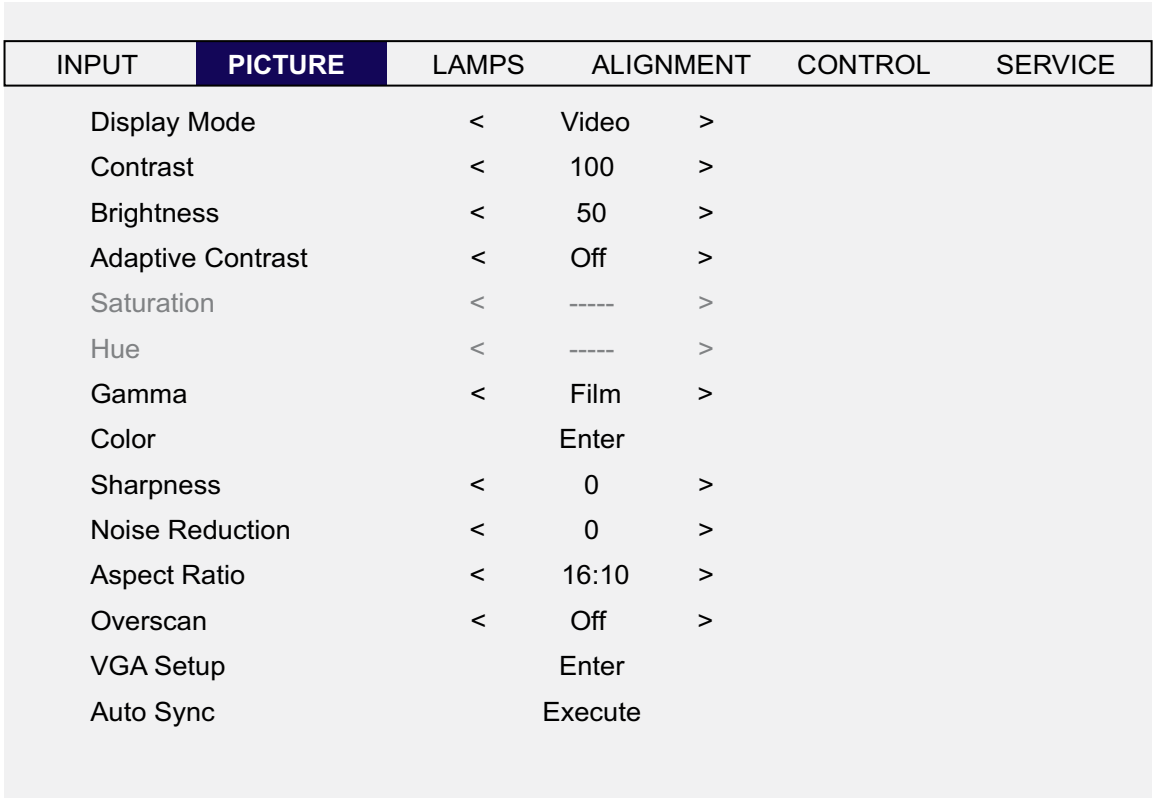
— **SECAM** (Sequential Color With Memory)
This is a standard format used mainly in France and Russia. Gamma: Select Gamma from the ADVANCED menu to choose a DLP de-gamma curve. Used correctly, the Gamma control can improve contrast while maintaining good details for blacks and whites. If excess ambient light washes out the image and it becomes difficult or impossible to see details in dark areas, lower the gamma setting to compensate. This improves contrast while maintaining good details for blacks. Conversely, if the image is washed out and unnatural, with excessive detail in black areas, increase the setting.

— **NTSC** (National Television Systems Committee)
This is the standard format used mainly in the United States and Japan.

Note:
Generally speaking, the projector will be able to automatically detect the video standard used in your area. However, there are circumstance where the projector will fail to interpret the video standard used and the user will have to manually configure the video format. If you are unsure of the video standard used in your area, please contact a qualified personnel and inquire about the video standard used in your area.

— **Auto Sync Adjust**
Use this function to set the automatic adjust setting for the incoming signal by adjusting the black level, gain, and reference (Off, Auto, Always).

OSD Introduction - PICTURE



— **Display Mode**
Use ◀ ▶ to select the display mode.

— **Contrast**
Use ◀ ▶ to adjust the contrast of the projected image.

Note:
Brightness and Contrast controls are interactive. The screen change to one may require a subtle change to the other in order to achieve the optimum setting.

— **Brightness**
Use ◀ ▶ to adjust the level of black in the image to increase or decrease image brightness.

— **Adaptive Contrast**
Use ◀ ▶ to adjust the light and dark aspects of the contrast curve.

— **Saturation**
Use ◀ ▶ to adjust the color saturation levels (higher the level the higher the saturation).

— **Hue**
Use ◀ ▶ to adjust the Hue level for true color reproduction (Video and S-Video for NTSC). **Gamma**
Different Gamma settings will affect viewers' perception of the image. For images that are darker, it is recommended that Gamma be set higher to yield better image quality in darker regions by sacrificing details in brighter areas. In contrast, when projecting brighter images, you can set the Gamma lower to give up details in the darker areas to make the brighter areas (i.e. clouds) more visible.

- **Film** set the gamma to 2.2.
- **Graphics** should only be used for computer presentations that require increased brightness at the cost of grayscale accuracy.
- **Video** is similar to Film gamma but differs in dark areas of the image to correspond to the function that video cameras use to create images.

— **Color**

Use ◀ ▶ to adjust the color temperature of the projected image.

— **Sharpness**

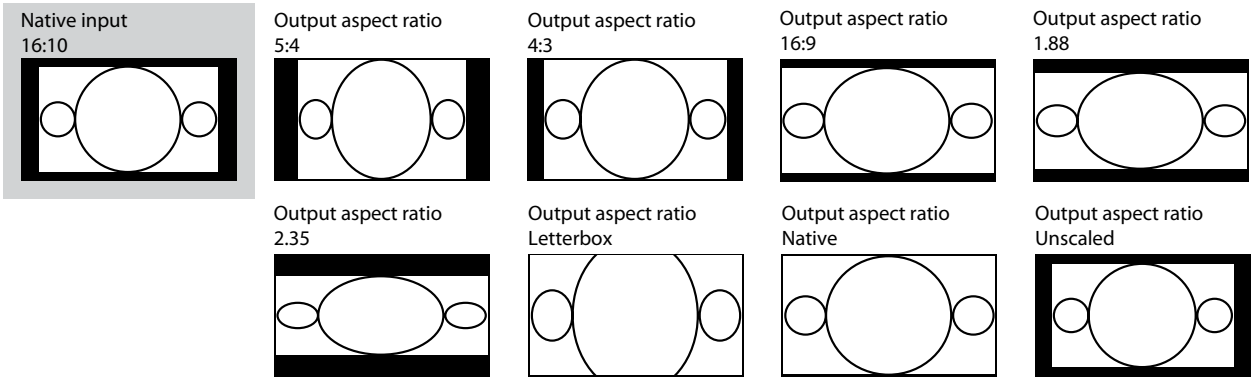
The adjustment of sharpness primarily changes the value of high frequency detail. Use ◀ ▶ to adjust it.

— **Noise Reduction**

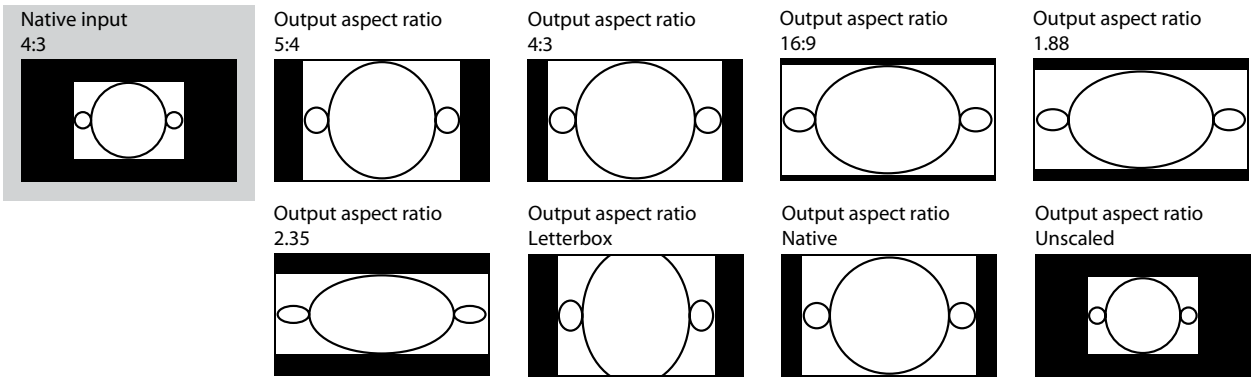
Use ◀ ▶to adjust the noise of the projected image. This function is suitable for the elimination of image noise from interleaving SD input. Generally speaking, reducing image noise will lower the value of high frequency detail and make the image appear more mellow.

— **Aspect Ratio**

This function allow user adjust the picture's Aspect ratio.
When Native input is 16:10, the images as following is the result of picture's Aspect ratio for your reference.

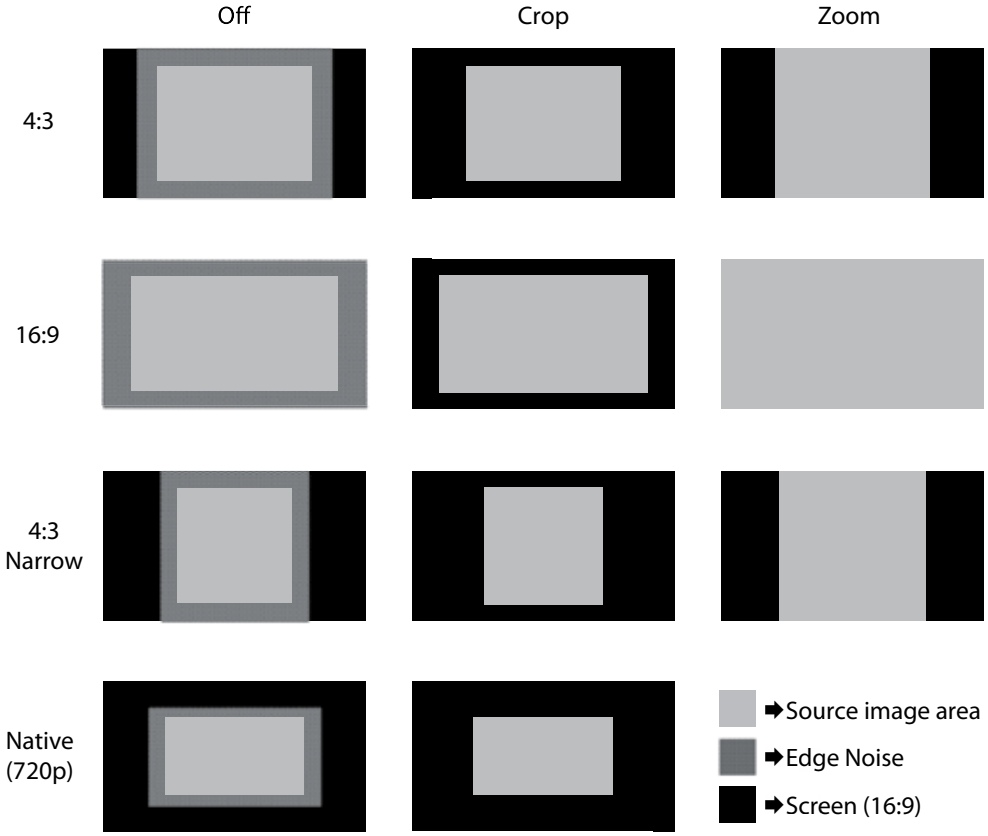


When Native input is 4:3, the images as following is the result of picture's Aspect ratio for your reference.



— **Overscan**

Some consumers may use the image that input source is not 16:9, and some programs may not display the edges of the image. Use this function to hide the image edge by choosing one of the following three options:



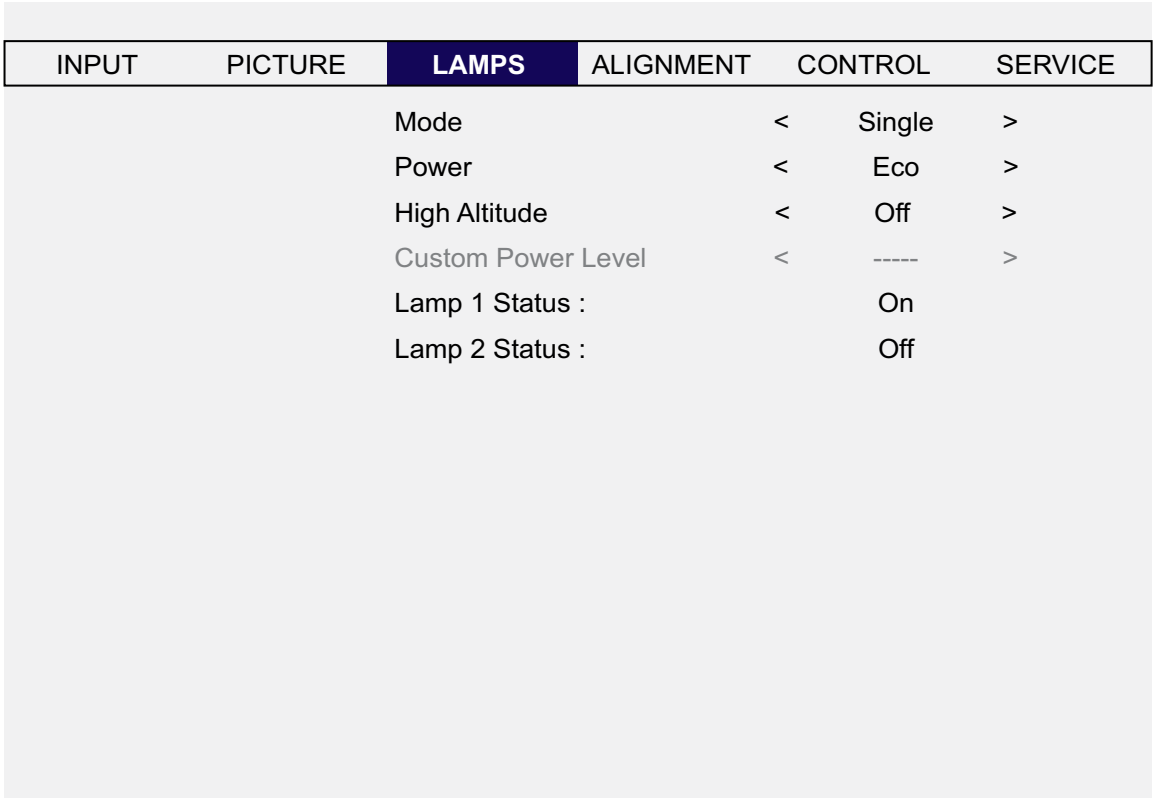
— **VGA Setup**

Use this function to set up the VGA display.

— **Auto Sync**

Use this function to set the automatic adjust setting for the incoming signal by adjusting the black level, gain, and reference (**Off**, **Auto**, **Always**).

OSD Introduction - LAMPS



— Mode
Use ◀ ▶ function to select single or dual lamp mode.

— Power
Use ◀ ▶ function to select Eco, normal, or custom power level.

— High Altitude
Use this function to control the projector's cooling fan. You can set it to **Off** or **On**. The default setting is **Off**.

Under normal circumstances, the projector will operate normally with this function set to Off. By default, the projector will detect the temperature of the surrounding environment to regulate the speed of the cooling fan. When the ambient temperature rises, fan speed will increase (generates louder noise) to make sure the heat inside the projector gets discharged and keep the projector working normally.

However, if you were to operate the projector in environment of excessive heat or in areas of high altitude, the projector may automatically shut down. When this happens, you can enable this function by setting it to On to force the cooling fan to work at a higher speed to regulate the temperature inside the projector.

Note:
High altitude region refers to area with elevation over 5000 feet.

— Custom Power Level
Use ◀ ▶ function to select a custom power level (80.4% to 100%).

— Lamp 1 Status
Use ◀ ▶ function to set lamp status to On/Off.

— Lamp 2 Status
Use ◀ ▶ function to set lamp status to On/Off.

OSD Introduction - ALIGNMENT

INPUT	PICTURE	LAMPS	ALIGNMENT	CONTROL	SERVICE

Projection Mode	<	Front	>
Fan Mode	<	Normal	>
Lens Control		Enter	
Lens Memory		Enter	
Center Lens		Execute	
Warp		Enter	
Blanking		Enter	
Edge Blend		Enter	

— **Projection Mode**
Use ◀ ▶ function to select the projection mode (**Front**, **Rear**, **Ceiling + Front**, **Ceiling + Rear**).

— **Fan Mode**
Use ◀ ▶ function to set the fan mode (**Normal**, **Up**, **Down**).

— **Lens Control**
Use this function to set the lens control mode (**Zoom**/**Focus**).

— **Lens Memory**
Load Memory: Select this item to load the your own setting.
Save setting: You can adjust the OSD's items by yourself then use this function to save your setting.

— **Center Lens**
Use this to center the lens.

— **Warp**
Use this to correct image distortion.

— **Keystone**
Press ◀ ▶ to correct horizontal keystone due to projection angle. Press ▲ ▼to correct Vertical keystone due to projection angle.

— **Rotation**
Press ◀ ▶ to correct incorrect image angle.

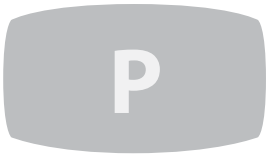
Press ◀ to adjust angle to correct.

Correct angle

Press ▶ to adjust angle to correct.

— **Pincushion / Barrel**
Press ◀ ▶ to correct pincushion/barrel distortion.

Press ◀ ▶ to correct pincushion distortion to correct image.



Press ◀ ▶ to correct barrel distortion to correct image.

— **Top Left Corner**
Press ◀ ▶ to correct top left corner image distortion.

Press ◀ ▶ to correct top left corner image distortion to correct image.

— **Top Right Corner**
Press ◀ ▶ to correct the right corner image distortion.

Press ◀ ▶ to correct top right corner image distortion to correct image.

— **Bottom Left Corner**
Press ◀ ▶ to correct the bottom left image distortion.

Press ◀ ▶ to correct bottom left corner image distortion to correct image.

— **Bottom Right Corner**
Press ◀ ▶ to correct the bottom left image distortion.

Press ◀ ▶ to correct bottom right corner image distortion to correct image.

— **Custom Warp**
Use this to create custom warp values.

— **Reset**
Set all values to factory defaults.

— **Blanking**

Use this function to adjust the edges of the image and hide unwanted sections of the screen.

— **TOP**

Press ◀ ▶ on the remote control to adjust the top blanking area on the projected image.

— **Bottom**

Press ◀ ▶ on the remote control to adjust the bottom blanking area on the projected image.

— **Left**

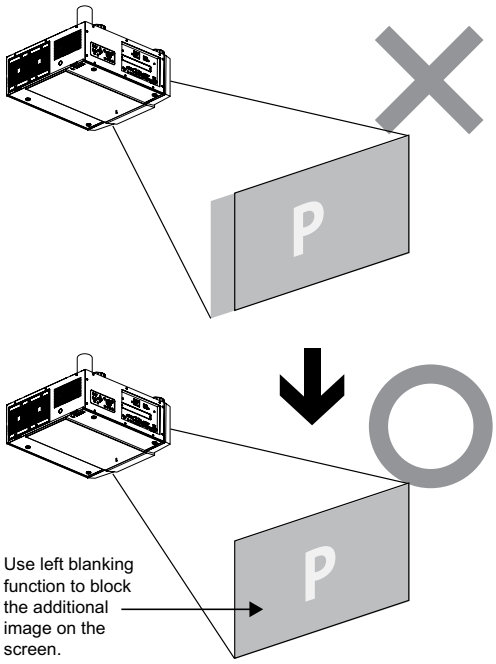
Press ◀ ▶ on the remote control to adjust the left blanking area on the projected image.

— **Right**

Press ◀ ▶ on the remote control to adjust the right blanking area on the projected image.

— **Reset**

It will reset all the blanking functions to the default settings that is without any blanking functions enabled.



— **Edge Blend**

Edge blend function requires multiple projectors simultaneously displaying on the same screen. Use this to adjust the uniformity of the images.

To use this function, Edge Blend must be enabled on both projectors.

— **Edge Blend**

1. Press **Menu** to activate menu.
2. Press ◀ ▶ to select Alignment and press **Enter**.
3. Press ◀ ▶ to select Edge Blend and press **Enter**.

Note:
Notice that red and green lines appear to indicate the edge of the screen. The green lines indicate the start/end of the blend zone.

— **Blend Width**

The menu White Level allows for Top, Bottom, Left, and Right adjustment of a blending zone.

1. Press **Menu** to activate menu.
2. Press ◀ ▶ to select Alignment and press **Enter**.
3. Press ◀ ▶ to select Edge Blend and press **Enter**.
4. Press ◀ ▶ to select Blend Width and press **Enter**.
5. Select an adjustment zone and use ◀ ▶ to correct the blend zone.

— **Black Level Uplift**

Black Level Uplift is used to compensate for the lack of pure black output from projectors, due to light leaking to the projection screen. When projecting black , the hot area where the two images overlap project twice the projectors' black output levels.

The solution is to adjust the Black Level Uplift. First make sure that the units connected to the projectors are outputting black. Then increase the Black Level Uplift (Top, Bottom, Left, Right) until the non-overlap area's brightness matches the overlap area.

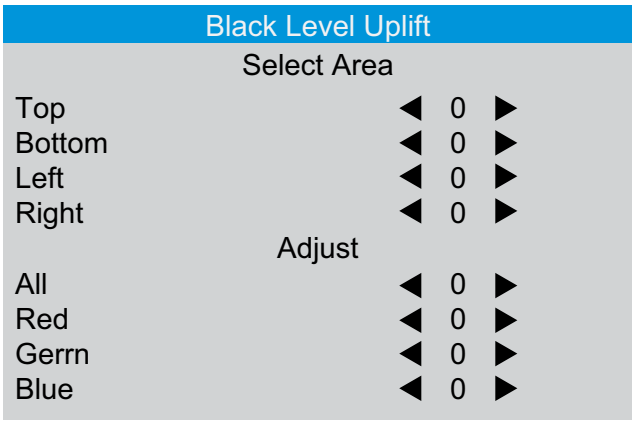
To adjust Black Level Uplift

1. Press **Menu** to activate menu
2. Press ◀ ▶ to select Alignment and press **Enter**.
3. Press ◀ ▶ to select Edge Blend and press **Enter**.
4. Press ◀ ▶ to select Black Level Uplift and press **Enter**.
5. Adjust the black level in zone A by setting the Selected Area (Top, Bottom, Left, Right) to match the black levels in zones B and C. You can also use Adjust (All, Red, Green, Blue) to set all primary colors.

Note:

— *Four corners, black level uplift adjustment function is not available.*

— *Corner blending, black level uplift adjustment function is not available.*



— **Reset**

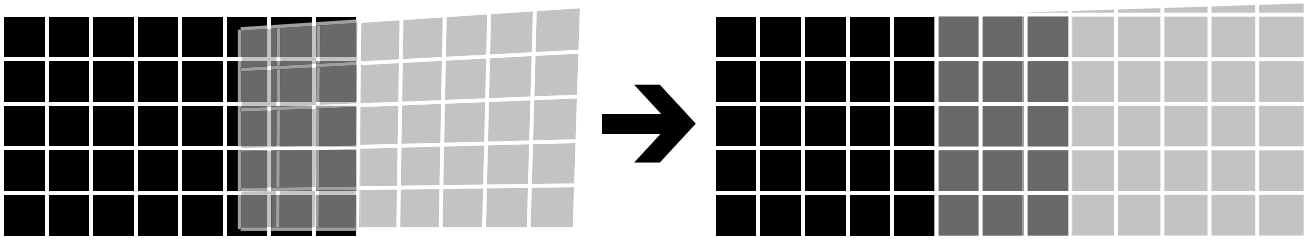
This function sets Edge Blend figures to the factory default settings.

— **Align Pattern**

Enable this function to use a test pattern to align and adjust multiple images.

To use the Align Pattern:

1. Setup two projects on a horizontal position and display the test grid pattern image on each.
2. Create an overlap zone with the two test patterns by using the ▲ ▼ ◀ ▶ buttons on the remote control.



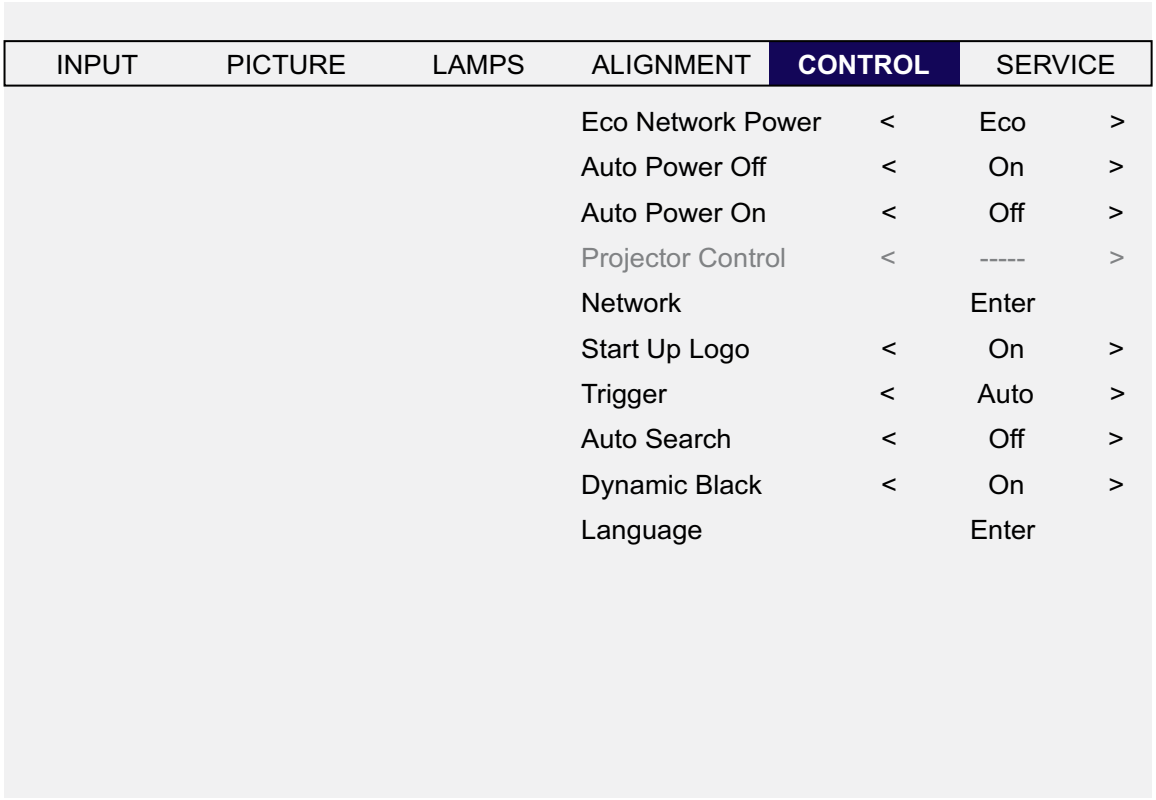
Note:

— *Blanking and Blend combinations are specific to each model.*

— *Do not adjust black levels in order to use the Edge blend / four corner combination function.*

— *Do not adjust black levels in order to use the blend along corners function.*

OSD Introduction - CONTROL



— **Eco Network Power**
Use ◀ ▶ function to set Standard or Eco network power.

— **Auto Power Off**
The default value is **OFF**. If you set it to **ON**, the projector will automatically shut down after 20 minutes without input signal.

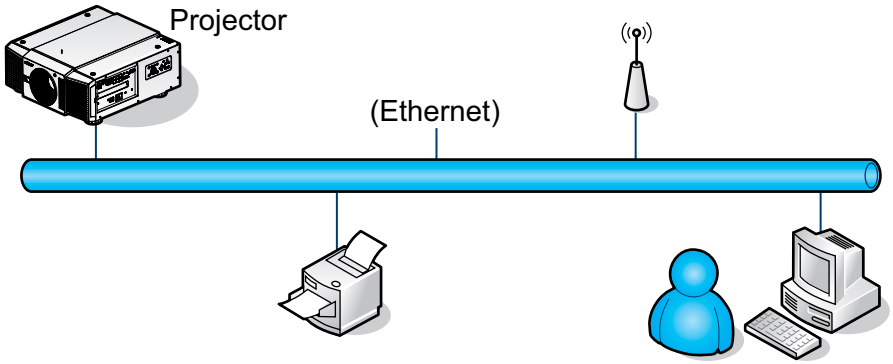
— **Auto Power On**
The default value is **Off**. If you set it to **ON**, the projector will automatically start up when it is connected to AC power. If you plug the projector's power cord into an AC socket with a switch, you can use this function to start up the projector using the socket's switch instead of the remote. If you do not need this function, please set it to **Off**.

— **Projector Control**
Use ◀ ▶ function to select RS232 or Network for the projector control.

— **Network**
Use this function to setup the network configuration.

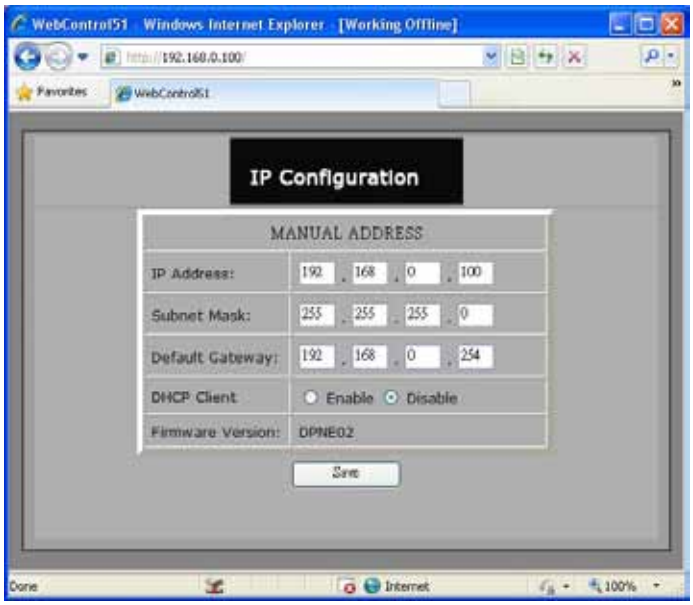
To connect to a network (LAN), refer to the following steps:

1. Connect an RJ45 cable to LAN ports on the projector and a router or hub on the network.

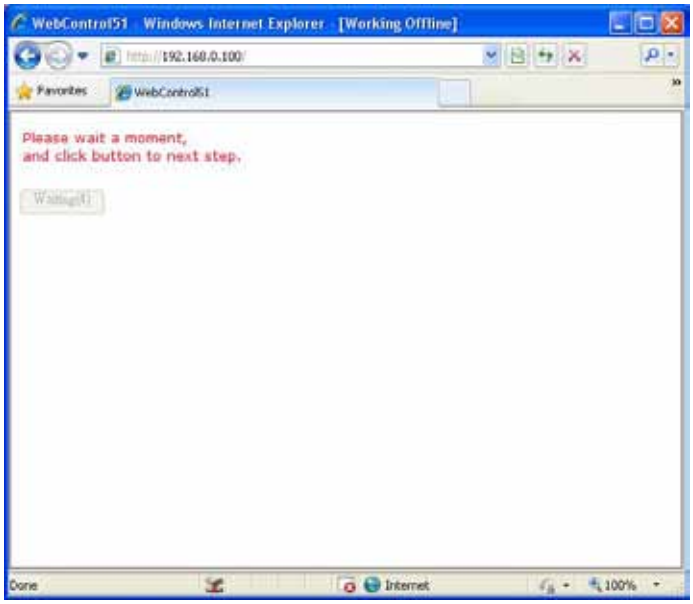


2. On the control PC, open a web browser and enter the IP address of the projector.

The Projector Web Server home page displays. In the example, the projector resides at IP address **192.168.0.100**.

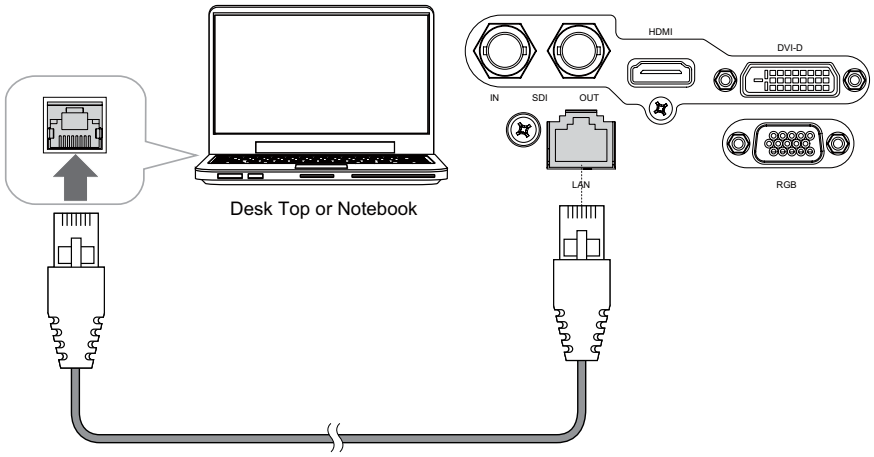


3. Make any desired changes to projector settings, then Click **Save**.



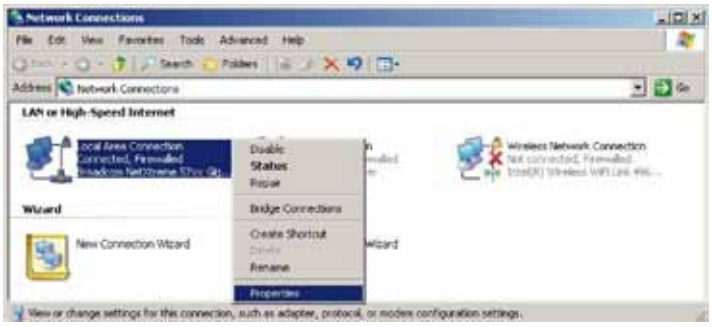
To connect to a stand alone PC or notebook, refer to the following steps:

1. Connect an RJ45 cable to LAN ports on the projector and the PC (Laptop).

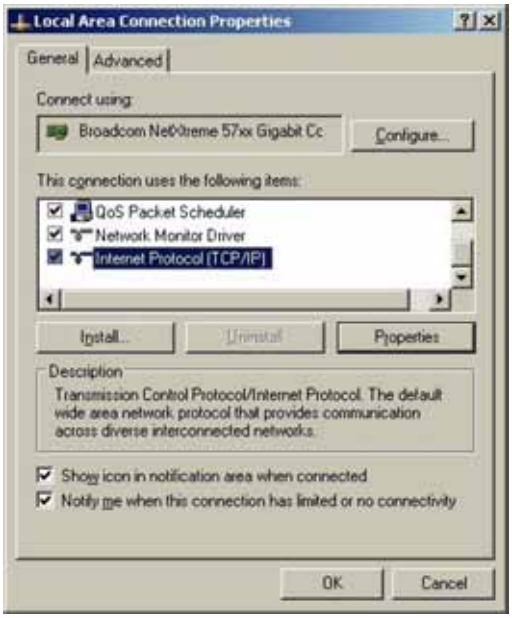


2. On the PC (Laptop), select **Start** -> **Control Panel** -> **Network Connections**.

3. Right-click on **Local Area Connection**, and select **Properties**.



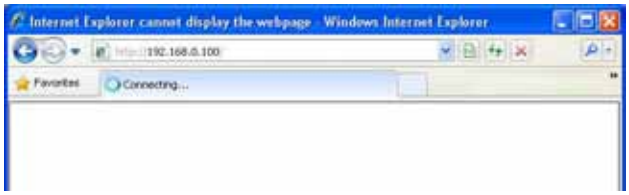
4. In the **Properties** window, select the **General** tab, and select **Internet Protocol (TCP/IP)**.
5. Click **Properties**.



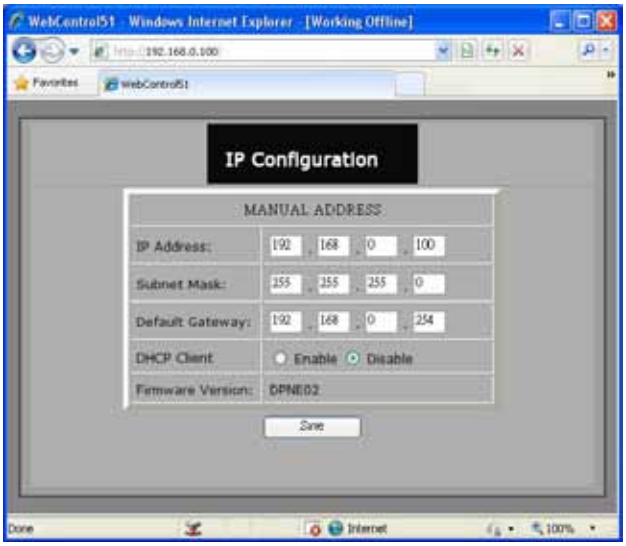
6. Click **Use the following IP address**.
7. Fill in the IP address and subnet mask. Make sure the IP address of the projector and PC are in the same network group. For example, 192.168.0.X. Whereas X must contain a different value. Then click **OK**.

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 99
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

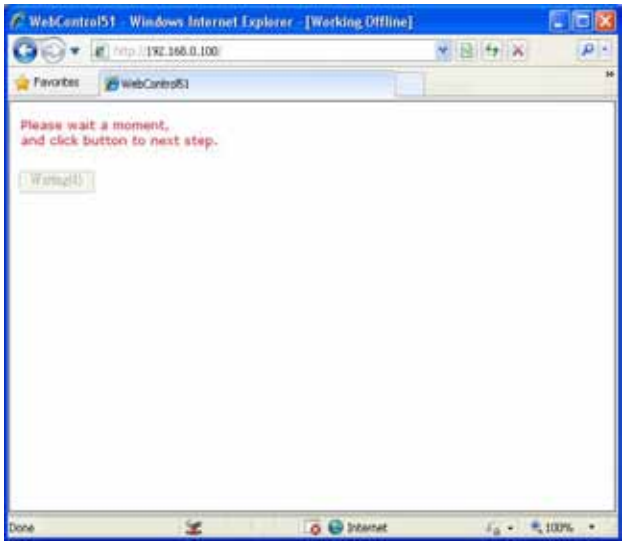
8. On the control PC, open a web browser and enter the IP address of the projector.



The Projector Web Server home page displays. In the example, the projector resides at IP address **192.168.0.100**.



9. Make any desired changes to projector settings, then Click **Save**.



10. Access Tera Term tool.

Use RS-232 command to control the Projector.

— **Start Up Logo**
Use ◀ ▶ function to turn On/Off the start up logo.

— **Trigger**
The projector comes with one set of Trigger output. You can configure one devices connected to the projector via the trigger port to be automatically turned on when the projector is on. There will be a 2-3 second delay prior to activation to prevent operation of this function when the user is choosing the desired aspect ratio.

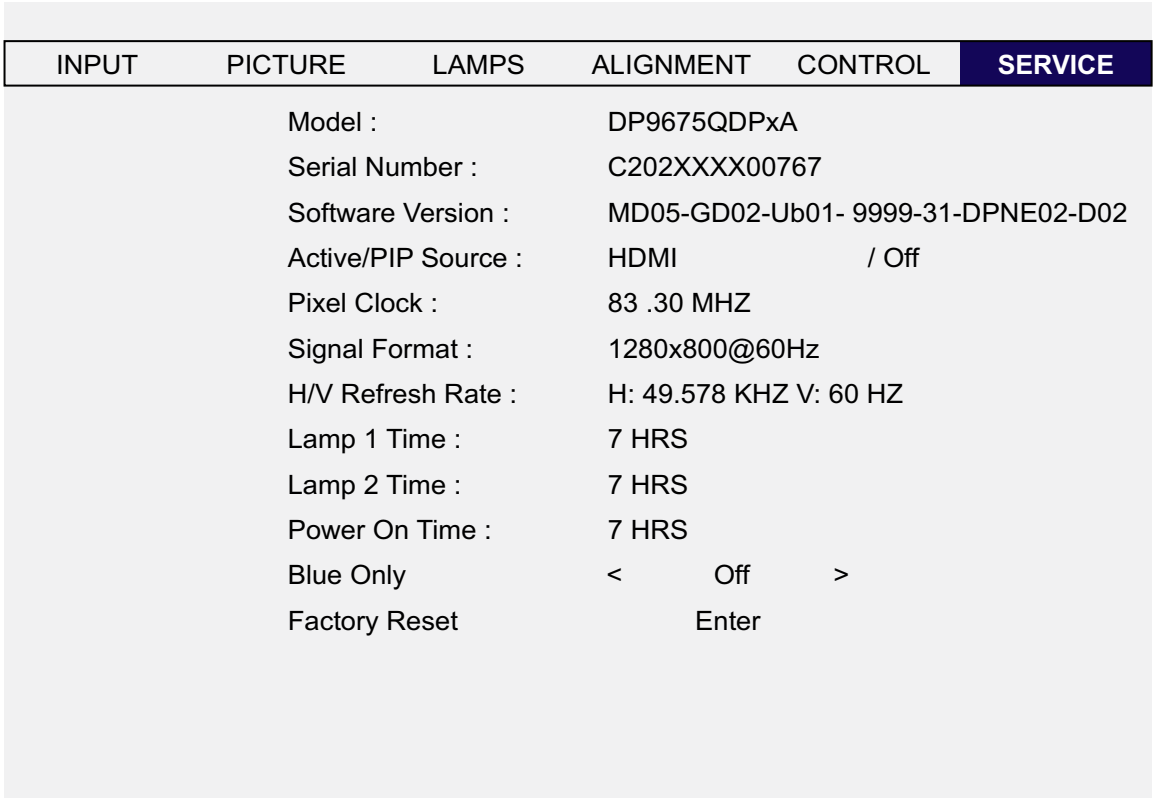
- **5:4:** Outputs 12V of power on Trigger when chooses the 5:4 aspect ratio.
- **4:3:** Outputs 12V of power on Trigger when chooses the 4:3 aspect ratio.
- **16:10:** Outputs 12V of power on Trigger when chooses the 16:10 aspect ratio.
- **16:9:** Outputs 12V of power on Trigger when chooses the 16:9 aspect ratio.
- **1.88:** Outputs 12V of power on Trigger when chooses the 1.88 aspect ratio.
- **2.35:** Outputs 12V of power on Trigger when chooses the 2.35 aspect ratio.
- **Letterbox:** Outputs 12V of power on Trigger when chooses the Letterbox aspect ratio.
- **Native:** Outputs 12V of power on Trigger when chooses the Native aspect ratio.
- **Unscaled:** Outputs 12V of power on Trigger when chooses the Unscaled aspect ratio.
- **Auto:** Outputs 12V of power on Trigger automatically.

— **Auto Search**
Use ◀ ▶ function to turn On/Off auto search.

— **Dynamic Black**
Use ◀ ▶ function to turn On/Off dynamic black .

— **Language**
Choose the OSD display language that you familiar. English, French, Spanish, Dutch, Portuguese, Simplify Chinese, Traditional Chinese, Japanese or Korean.

OSD Introduction - SERVICE



The functions covered in this unit relate to the display of some basic information about the projector.

Note:
Memory of the custom timing files will be erased in the Factory Reset operation.

Model
The designated model number of the projector.

Serial Number
The designated serial number of the projector.

Software Version
The version of software installed on the projector.

Active/PIP Source
Displays the current Active/PIP sources.

Pixel Clock
Displays the pixel clock of the current input signal.

Signal Format
Displays the format of the current input signal.

H/V Refresh Rate
Displays the horizontal and vertical refresh rates for the current image.

Lamp 1 Time
Display the lamp 1 usage time. When you change the new lamp. The lamp hours will re-calculate the time.

— **Lamp 2 Time**
Display the lamp 2 usage time. When you change the new lamp. The lamp hours will re-calculate the time.

— **Power On Time**
Display the total On time for projector. Display only.

— **Blue Only**
Enabling this option will make the projector display only blue color to facilitate the process of image inspection for the service personnel. For detailed instructions on how to use this function, consult a qualified service personnel.

— **Factory Reset**
Use this function to restore the configurations in the OSD Menu back to factory default. Note that this function will not apply to items including no signal, network, Projector control, startup Logo, language, High Altitude mode and lamp hours.

Note:
When Factory Reset is executed, all source memories created by the projector (i.e. timings files) will be erased.

Change Lamp

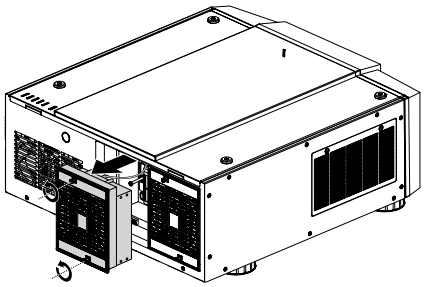
The lifecycle of ordinary projection lamp typically lasts for 1200 hours before requiring replacement (different lamp configurations will affect lamp life). From the OSD Menu, you can go to "OSD Introduction - SERVICE" on page 45 to check how long a lamp has been used. You should also replace the lamp when the projected image gets noticeably darker. Contact your local dealer to purchase new certified lamps for your projector.

To replace the projector lamp1

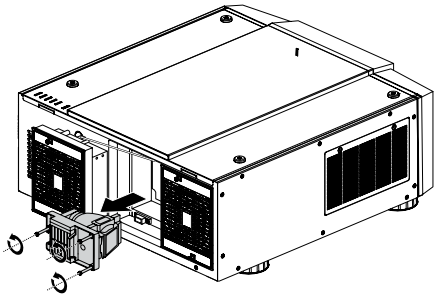
1. Turn off the projector and unplug the power cord. Let the projector cool for approximately 60 minutes before removing the lamp module for replacement.

   Note:
   When you turn off the projector, the lamp inside the projector will still be very hot (approximately 200 ~ 300°C). If you attempt to replace the lamp without allowing the projector to cool, you could risk scalding yourself. This is why you should wait for no less than 60 minutes for the lamp to cool down in order to perform the replacement safely.

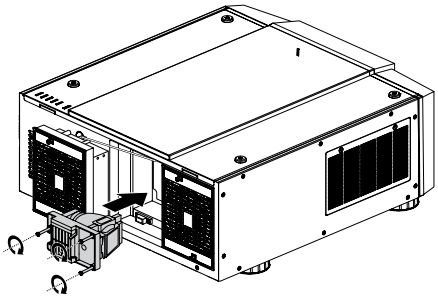
2. Loosen the fan.



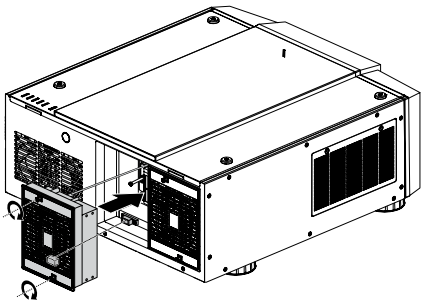
3. Use a screw driver to loosen the screws as shown in the illustration and pull the lamp out.



4. Insert the new lamp in the direction shown in the illustration into the lamp assembly; tighten the three screws using a screw diver and make sure the lamp is firmly secured to prevent the lamp from shaking or poor contact.

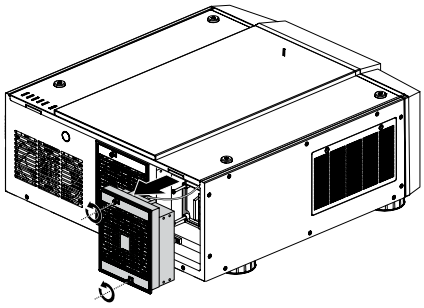


5. Replace the fan and firmly secure the one screw on the fan.

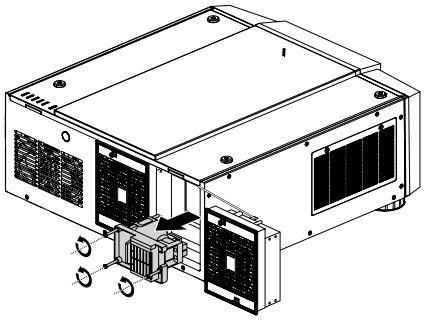


To replace the projector lamp2

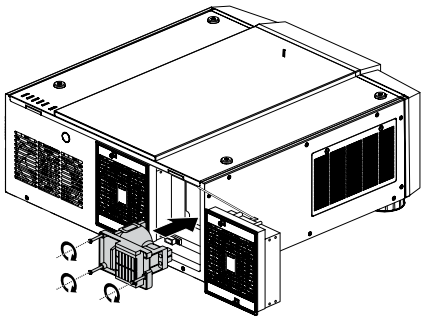
1. Loosen the fan.



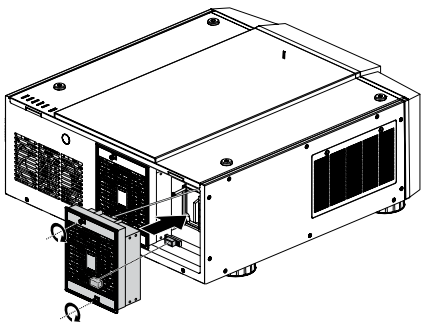
2. Use a screw driver to loosen the screws as shown in the illustration and pull the lamp out.



3. Insert the new lamp in the direction shown in the illustration into the lamp assembly; tighten the three screws using a screw diver and make sure the lamp is firmly secured to prevent the lamp from shaking or poor contact.



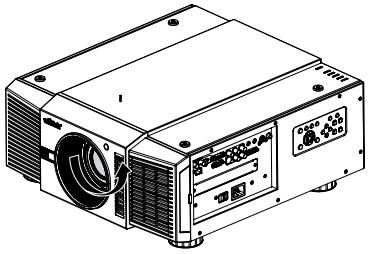
4. Replace the fan and firmly secure the one screw on the fan.



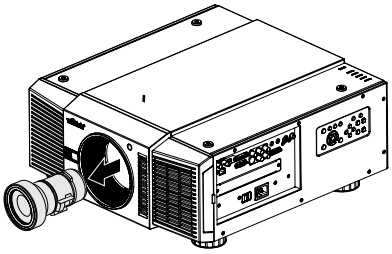
Change Lens

To replace the projector Lens

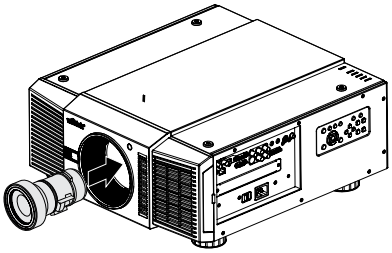
1. Remove the front cover.
2. Press and hold the lens lock button. Support the lens with one hand and turn clockwise loose the lens.



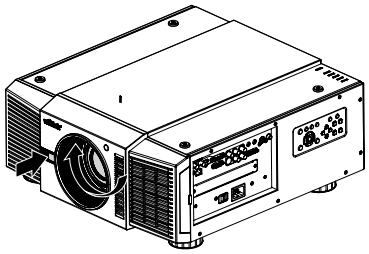
3. Pull the lens backward and slide the lens out of the lens holder.



4. Insert the lens that female jeck is in front of the male jack (upper left corner). Ensure the lens touches the lens holder.



5. Secure the lens in the lens holder by turning counterclockwise the lens to the "locked" position.



6. Check if the lens is really secured by trying to pull the lens out of the lens holder.

■ Six models of lens for D8800(WUXGA)

Vivitek Part Number	Lens	F#	TR	Zoom Ratio
D88-ST001	Standard Lens	1.7 ~ 1.9	1.73 ~ 2.27	1.3
D88-WF18501	Wide Fix	1.85	0.79	N/A
D88-WZ01	Wide Zoom	1.85 ~ 2.50	1.25 ~ 1.79	1.41
D88-SMLZ01	Semi Long Zoom 1	1.86 ~ 2.48	2.22 ~ 3.67	1.65
D88-LOZ101	Long Zoom 1	1.85 ~ 2.41	3.58 ~ 5.38	1.5
D88-LOZ201	Long Zoom 2	1.85 ~ 2.48	5.31 ~ 8.26	1.55

Six models of lens for D8900(XGA)

Vivitek Part Number	Lens	F#	TR	Zoom Ratio
D88-ST001	Standard Lens	1.7 ~ 1.9	1.79 ~ 2.35	1.3
D88-WF18501	Wide Fix	1.85	0.8	N/A
D88-WZ01	Wide Zoom	1.85 ~ 2.50	1.3 ~ 1.85	1.41
D88-SMLZ01	Semi Long Zoom	1.86 ~ 2.48	2.3 ~ 3.81	1.65
D88-LOZ101	Long Zoom1	1.85 ~ 2.41	3.67 ~ 5.64	1.5
D88-LOZ201	Long Zoom2	1.85 ~ 2.48	5.5 ~ 8.56	1.55

Six models of lens for D8010W(WXGA)

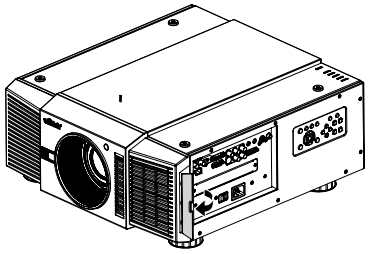
Vivitek Part Number	Lens	F#	TR	Zoom Ratio
D88-ST001	Standard Lens	1.7 ~ 1.9	1.80 ~ 2.38	1.3
D88-WF18501	Wide Fix	1.85	0.76	N/A
D88-WZ01	Wide Zoom	1.85 ~ 2.50	1.31 ~ 1.87	1.41
D88-SMLZ01	Semi Long Zoom	1.86 ~ 2.48	2.33 ~ 3.86	1.65
D88-LOZ101	Long Zoom1	1.85 ~ 2.41	3.71 ~ 5.57	1.5
D88-LOZ201	Long Zoom2	1.85 ~ 2.48	5.56 ~ 8.67	1.55

Change Filter

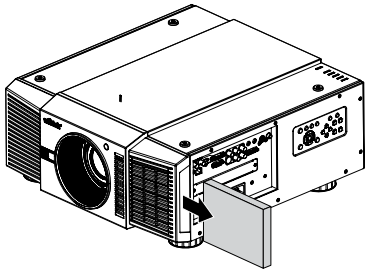
The filter should be changed every 3000 hours.

To replace the Filter on the left side of the projector

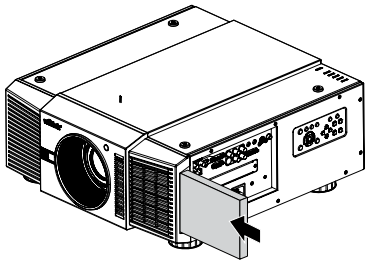
1. Remove the cover on the left side of the projector.



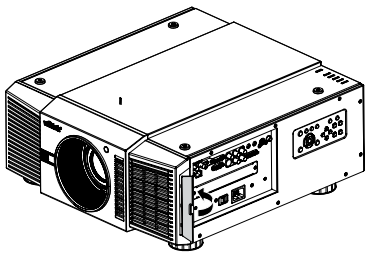
2. Remove the filter from it.



3. Insert a new filter.

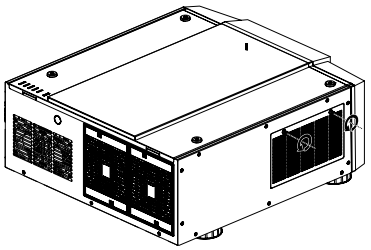


4. Install the cover on the left side of the projector.

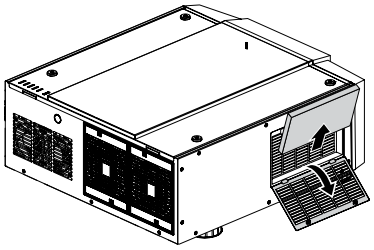


To replace the Filter on the right side of the projector

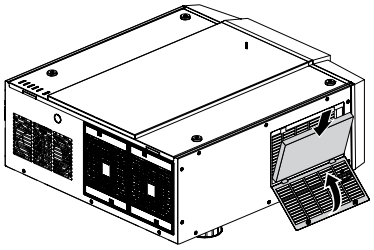
1. Loosen the fan cover on the right side of the projector.



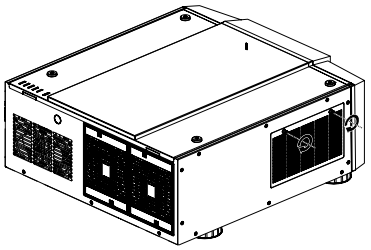
2. Open the fan cover and remove the filter from it.



3. Insert a new filter and install the fan cover on the right side of the projector.



4. Secure the fan cover.

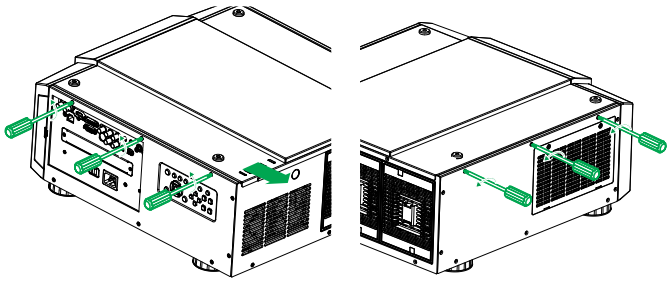


Optional component

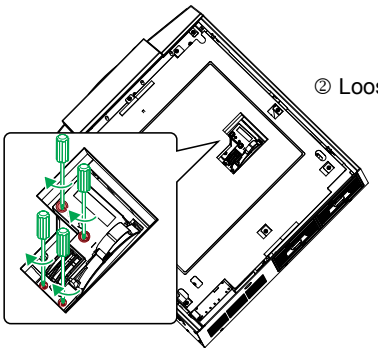
Component	P/N
Handle	D88-Acc-HDL-oo
Foot	D88-Acc-Fot-oo
Filter	D88-AFoo

Change the Color Wheel

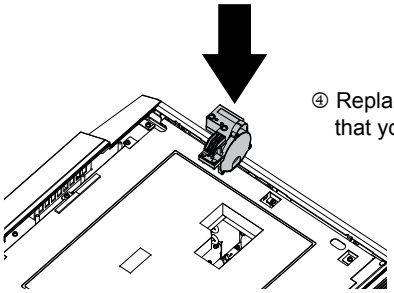
The color wheel is on the top side.



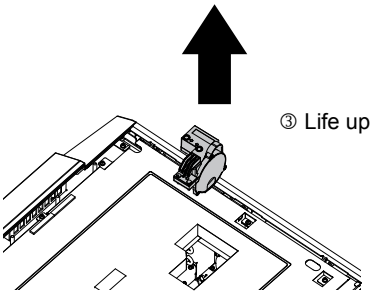
① Loosen the top cover
Slide the cover and remove it.



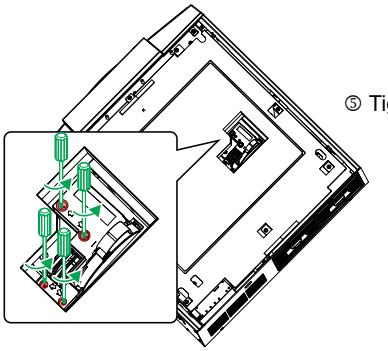
② Loosen the color wheel's screw.



④ Replace the color wheel that you wanted.

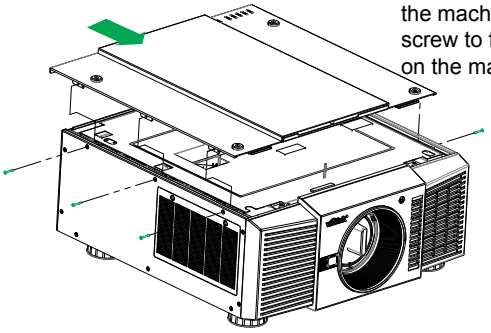


③ Life up the color Wheel

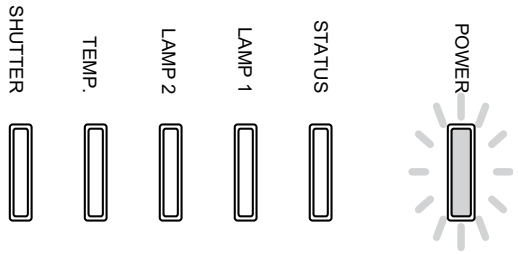


⑤ Tighten the screws.

⑥ Slide the bracket to recover the machine then use the screw to fix the top bracket on the machine.



LED Status



Power LED

LED Display		Projector status	Procedure
Off		Power is off	
Flashing	Green	Prepare to turn on projector	Wait till projector start displaying
	Orange	Projector cooling	Wait until cooling finish (~ 90 sec)
On	Red	Standby mode	
	Green	Projector is on	

Status LED

LED Display		Projector status	Procedure
Off		No Problem	
Flashing	Red (Cycles of 1)	Cover Problem	Contact local Vivitek Server Center
	Red (Cycles of 4)	Fan Problem	Contact local Vivitek Server Center
On	Red	System Error	Contact local Vivitek Server Center

Lamp1/Lamp2 LED

LED Display		Projector status	Procedure
Off		Lamp off	
Flashing	Green	Prepare to light lamp	
	Red (Cycles of 6)	Lamp lit fail	
On	Red	Lamp is end-of-life	
	Green	Lamp lit	

Temp LED

LED Display		Projector status	Procedure
Off		No Problem	
Flashing	Red	Temperature problem	Contact local Vivitek Server Center

Shutter LED

LED Display		Projector status	Procedure
Off		Shutter is open	
Flashing	Green	Shutter is closed	

SPECIFICATIONS

Model	D8800	D8900	D8010W
Display Type	DLP		
Brightness	8000 ANS Lumens	10,000 ANS Lumens	8000 ANS Lumens
Native Resolution	WUXGA (1920 x 1200)	XGA (1024 x 768)	WXGA (1280 x 800)
Maximum Resolution	WUXGA (1920 x 1200)@60Hz		
Contrast Ratio	3000:1		
Lamp Life and Type	2000/2500 Hours (Std. / Eco Mode), 400W x 2		
Throw Ratio (Standard Lens)	1.73 - 2.27:1	1.79-2.35:1	1.81-2.38:1
Image Size (Diagonal)	40"- 500"	40"- 500"	40"- 500"
Projection Distance	1.83 – 14.9m (6 - 49ft)	1.79 – 14.54m (5.87 – 47.07ft)	1.93 – 15.64m (6.3 – 51.31ft)
Projection Lens	F = 1.7 - 1.9 f = 25.7 - 33.7mm		
Zoom Ratio (Standard Lens)	1.3X		
Aspect Ratio	16.10 Native, 4.3 and 16:9 Compatible		
Offset	0% ~ +50%		
Keystone Correction	Vertical: +/-30° Horizontal:+/-35°		
Synchronization	Vertical: 48 - 120 Hz Horizontal: 15 - 108kHz		
Edge Blending	Yes (built-in)		
Lens Shift Range	Vertical: +/- 50% Horizontal: +/- 10%		
Video Compatibility	SDTV(480i/576i), EDTV (480p/576p), HDTV (720p, 1080i/p), NTSC/NTSC 4.43, PAL B/G/H/I/M/N 60, SECAM		
I/O Connection Ports	HDMI v1.3, DVI-D, Component (YPbPr), VGA-In (x2), S-Video, Composite, 3G HDSDI-In, 3G HDSDI-Out, RJ45, 12V Trigger, RS-232C, Wired Remote		
Projection Method	Table Top, Ceiling Mount (Front or Rear)		
Dimensions (W x D x W)	508 x 552.6 x 229mm (20" x 21.8" x 9")		
Weight (Without Lens)	24kg (52.9lbs)		
Noise Level	39 dB/39 dB (Single Lamp Eco./Std Mode) 39 dB/43 dB (Dual Lamp Eco./Std Mode)		
Power Supply	AC 100-240V, 50/60Hz		
Power Consumption	Lamp Style / Dual Lamp / Single Lamp 220V / 960W / 450W 110V / 995W / 440W Standby: 0.5W (Without RJ-45, RS-232 Enabled)		
Standard Accessories	AC Power Cord VGA Cable Remote Control Lens Cap Documentation Kit		
Optional Accessories	Replacement Lamp Remote Carry Handle Foot Socket Interchangeable Lens Options (x6)		

SERIAL INTERFACE SPECIFICATIONS

Transfer Specifications

Item	Specifications
Transmission Speed	38400 bps
Data Length	8 bit
Parity	None
Stop Bit	1
Flow Control	None

RS-232 Commands

There are 2 types of commands:

- Key commands
- Operation commands

All commands start with 2 letters as shown in the following:

- "ky" for key commands.
- "op" for operations commands.
- Key Commands The following example is the syntax for key commands: ky <keyname> [CR]

IR Codes and Key names

Key	Code	RS232 Key name	Key Wording	Description
1	0x90		ON	Turn power on.
2	0x91		OFF	Turn power off.
3	0xB6		FOCUS+	
4	0xB7		ZOOM+	Zoom in.
5	0xB8		TEST PATTERN	Enter test pattern menu.
6	0xB9		FOCUS-	
7	0xBA		ZOOM-	Zoom out.
8	0xBB		LENS SHIFT	Shift control of the lens.
9	0xC1		▲	Keypad up arrow.
10	0xC3		◀	Keypad left arrow.
11	0xC4		▶	Keypad right arrow.
12	0xC5		ENTER	Keypad enter.
13	0xC2		▼	Keypad down arrow.
14	0x87		MENU	Show or hide the OSD menu.
15	0xBC		EXIT	Exit the OSD menu.
16	0x83		INPUT	Switch the active source.
17	0x98		PICTURE	Open PICTURE menu.
18	0x8C		NETWORK	
19	0x86		AUTO SYNC	
20	0x9F		ASPECT	Switch to the next aspect ratio.
21	0x8F		PIP	
22	0xBD		OVERSCAN	
23	0x8E		FREEZE	
24	0x8b		LAMP MODE	
25	0xBE		3D MODE	Not available.
26	0xBF		INFO	Open SERVICE menu.

Key	Code	RS232 Key name	Key Wording	Description
27	0x9E		LIGHT	
28	0x9A		CLEAR	Not available.
29	0x9B		SHUTTER	Turn on or off the shutter.
30	0x9C		ID SET	Not available.

Operations Commands

The following example is the syntax for operations commands:

op <operation> <command> [CR]

No.	Function	Command	Action on unit
1	Set	=<value>	Makes the unit take that value.
2	Get	?	Asks what the current value is.
3	Increment	+	Adds 1 to the current value.
4	Decrement	-	Subtracts 1 from the current value.
5	Execute	(none)	Performs an action.

Operation	Command	Values
1. INPUT		
input.sel	= ?	0 = HDMI 1 = DVI 2 = VGA 3 = Component / BNC 4 = Composite 5 = S-Video 6 = 3G-SDI 7 = Option Board (Reserved)
pip	= ?	0 = Off 1 = On
pip.sel	= ?	1 = HDMI 2 = DVI 3 = VGA 4 = Component / BNC 5 = Composite 6 = S-Video 7 = 3G-SDI 8 = Option Board (Reserved)
pip.swap	(execute)	Swap main and PIP source
pip.pos	= ?	0 = Top Left 1 = Top Right 2 = Bottom Left 3 = Bottom Right 4 = Split L-R
pattern	= ?	0 = Color Bar 1 = Cross Hatch 2 = Burst 3 = Red 4 = Green 5= Blue 6 = White 7 = Black 8 = Red (TI) 9 = Green (TI) 10 = Blue (TI) 11 = HRamp (TI) 12 = Off

Operation	Command	Values
color.space	= ?	0 = Auto 1 = YCbCr 2 = YPbPr 3 = RGB-PC (0-255) 4 = RGB-Video (16-235)
input.lock	= ?	0 = Auto 1 = 48 Hz 2 = 50 Hz 3 = 60 Hz
no.signal	= ?	0 = Logo 1 = Blue 2 = Black 3 = White
vid.std	= ?	0 = Auto 1 = PAL 2 = SECAM 3 = NTSC
auto.imgadj	= ?	0 = Off 1 = Auto 2 = Always
2. PICTURE		
pic.mode	= ?	0 = High Bright 1 = Presentation 2 = Video
contrast	= ? + -	0 - 200
dyna.cont	= ?	0 = Off 1 = On
bright	= ? + -	0 - 200
saturat	= ? + -	0 - 200
tint	= ? + -	0 - 200
gamma	= ?	0 = Film 1 = Graphics 2 = Video 3 = Linear
color.temp (pic.mode is "High Bright" or "Presentation")	= ?	0 = Default 1 = Native
color.temp (pic.mode is "Video")	= ?	0 = 5000K 1 = 6500K 2 = 7800K 3 = 9300K 4 = Native
red.offset	= ? + -	0-200
green.offset	= ? + -	0-200
blue.offset	= ? + -	0-200
red.gain	= ? + -	0-200
green.gain	= ? + -	0-200
blue.gain	= ? + -	0-200
sharp	= ? + -	0-200
nr	= ? + -	0-200 (Noise Reduction)
aspect	= ?	0 = 5:4 1 = 4:3 2 = 16:10 3 = 16:9 4 = 1.88 5 = 2.35 6 = Letterbox 7 = Native 8 =Unscaled

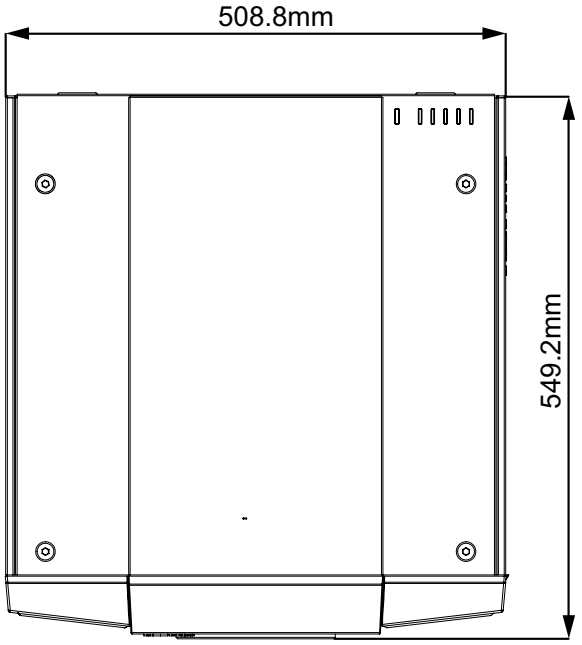
Operation	Command	Values
zoom (Overscan)	= ?	0 = 5:4 1 = 4:3 2 = 16:10 3 = 16:9 4 = 1.88 5 = 2.35 6 = Letterbox 7 = Native 8 =Unscaled
h.total	= ? + -	0-200
h.pos	= ? + -	0-200
h.phase	= ? + -	0-200
v.pos	= ? + -	0-200
auto.img (Auto Sync)	(execute)	
3. LAMP		
lamps	= ?	0 = Single 1 = Dual
lamp.mode (Drive)	= ?	0 = Economy 1 = Standard 2 = Dimming
lamp.pwr	= ?	0-25 (80.4 % ~100.0 %)
altitude (High Altitude)	= ?	0 = Off 1 = On
lamp1.stat	?	0 = Off 1 = On
lamp2.stat	?	0 = Off 1 = On
4. ALIGNMENT		
proj.mode	= ?	0 = Front 1 = Rear 2 = Ceiling + Front 3 = Ceiling + Rear
fan.pos	= ?	0 = Normal 1 = Vertical 2 = Down
zoomio	+ -	+ => Zoom out - => Zoom in
focus	+ -	+ => Focus Near - => Focus Far
vert.offset	+ -	+ => Up - => Down
horiz.offset	+ -	+ => Right - => Left
lens.load	=	1~10 set of lens memory (Load)
lens.save	=	1~10 set of lens memory (Save)
lens.center	(execute)	Midposition shift
h.keystone	= ? + -	-350~+350
v.keystone	= ? + -	-200~+200
warp.rotat	= ? + -	-20 ~ +20 (in fb 1/4 unit)
warp.pinbrl	= ? + -	-100 ~ +100
warp.tlc.x warp.tlc.y	= ? + -	'x: -192 ~ +192 'y: -120 ~ +120
warp.trc.x warp.trc.y	= ? + -	'x: -192 ~ +192 'y: -120 ~ +120
warp.blc.x warp.blc.y	= ? + -	'x: -192 ~ +192 'y: -120 ~ +120
warp.brc.x warp.brc.y	= ? + -	'x: -192 ~ +192 'y: -120 ~ +120
warp.cust	= ?	0 = Off 1 = On

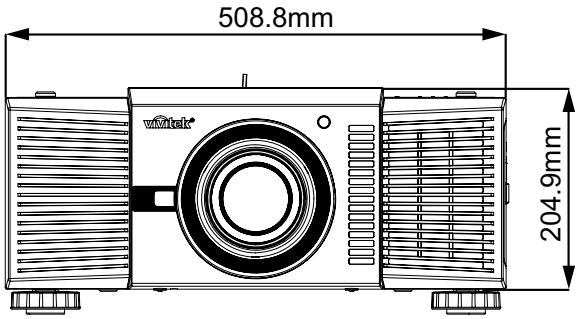
Operation	Command	Values
warp.reset	(execute)	
blank.top	= ? + -	0 ~ 360
blank.btm	= ? + -	0 ~ 360
blank.left	= ? + -	0 ~ 534
blank.right	= ? + -	0 ~ 534
blank.rst	(execute)	
eb.stat (Edge Blend)	= ?	
eb.wht.top	= ? + -	0, 200 ~ 500
eb.wht.btm	= ? + -	0, 200 ~ 500
eb.wht.left	= ? + -	0, 200 ~ 800
eb.wht.right	= ? + -	0, 200 ~ 800
eb.blk.top	= ? + -	0, 8, 16, 24, 32
eb.blk.btm	= ? + -	0, 8, 16, 24, 32
eb.blk.left	= ? + -	0, 4, 8, 12, 16, 20, 24, 28, 32
eb.blk.right	= ? + -	0, 4, 8, 12, 16, 20, 24, 28, 32
eb.all	= ? + -	0 ~ 32
eb.red	= ? + -	0 ~ 32
eb.green	= ? + -	0 ~ 32
eb.blue	= ? + -	0 ~ 32
eb.reset	(execute)	
w2.recover	(execute)	
eb.adl (Align Pattern)		0 = Off 1 = On
5. CONTROL		
eco.net.pow	= ?	0 = Off (ECO Standby Mode) 1 = On (Standard Standby Mode)
auto.powoff	= ?	0 = Off 1 = On
auto.powon	= ?	0 = Off 1 = On
proj.ctrl	= ?	0 = rs232 1 = network
net.ipaddr	= ?	<string>
net.subnet	= ?	<string>
net.gateway	= ?	<string>
net.dhcp	= ?	0 = Off 1 = On
startup.logo	= ?	0 = Off 1 = On
trig.1	= ?	0 = 5:4 1 = 4:3 2 = 16:10 3 = 16:9 4 = 1.88 5 = 2.35 6 = Letterbox 7 = Native 8 = Unscaled 9 = Auto
auto.src (Auto Search)	= ?	0 = Off 1 = On
dblack	= ?	0 = Off 1 = On
lang	= ?	0 = English 1 = French 2 = Spanish 3 = German 4 = Portuese 5 = Chinese Simplified 6 = Chinese Traditional 7 = Japanese 8 = Korean

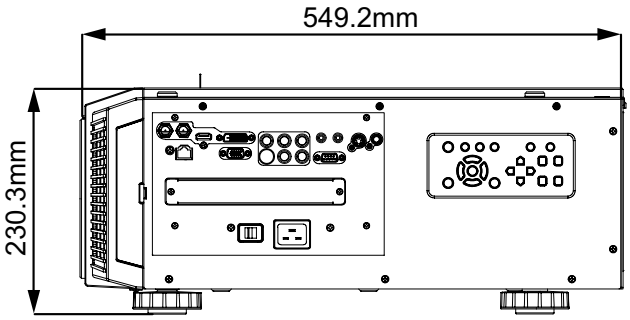
Operation	Command	Values
6. SERVICE		
model	?	<string>
ser.no	?	<string>
sw.ver	?	<string>
act.src	?	0 = HDMI 1 = DVI 2 = VGA 3 = Component / BNC 4 = Composite 5 = S-Video 6 = 3G-SDI 7 = Option Board (Reserved)
pip.src	?	0 = PIP OFF 1 = HDMI 2 = DVI 3 = VGA 4 = Component / BNC 5 = Composite 6 = S-Video 7 = 3G-SDI 8 = Option Board (Reserved)
pixel.clock	?	<string>
signal	?	<string>
h.refresh	?	<string>
v.refresh	?	<string>
lamp1.hours	?	<string>
lamp2.hours	?	<string>
proj.runtime	?	<string>
blue.only	= ?	0 = Off 1 = On
fact.reset	(execute)	

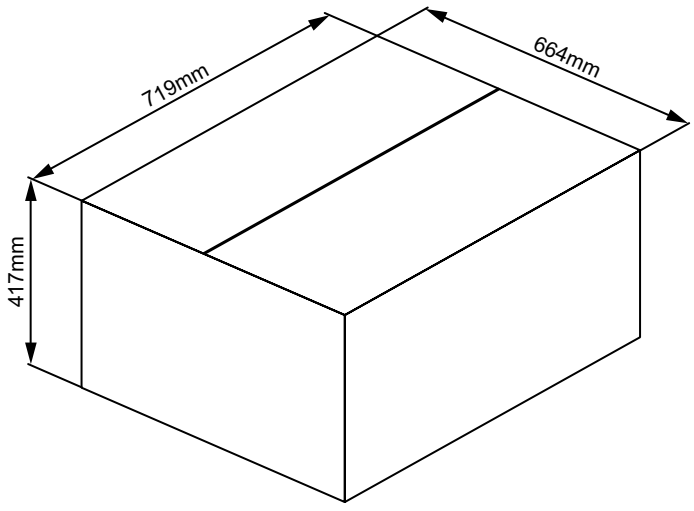
A. Others		
power.on	(execute)	
power.off	(execute)	
picture.mute	= ?	0 = Off 1 = On
status	?	0 = standby 1 = warm up 2 = imaging 3 = cooling 4 = warning
errcode	?	0=ErrMsgOverTempInlet 1=ErrMsgOverTempDMD 2=ErrMsgOverTempLamp1 3=ErrMsgOverTempLamp2 4=Reserved 5=Reserved 6=ErrMsgOverTempBallast1 7=ErrMsgOverTempBallast2 8=Reserved 9=Reserved 10=ErrMsgFanInitError 11=ErrMsgFan1RotateError 12=ErrMsgFan2RotateError 13=ErrMsgFan3RotateError 14=ErrMsgFan4RotateError 15=ErrMsgFan5RotateError 16=ErrMsgFan6RotateError 17=ErrMsgFan7RotateError 18=ErrMsgFan8RotateError 19=ErrMsgFan9RotateError 20=ErrMsgFan10RotateError 21=ErrMsgFan11RotateError 22=ErrMsgFan12RotateError 23=ErrMsgFan13RotateError 24=Reserved 25=Reserved 26=Reserved 27=ErrMsgDMDInitFail 28=ErrMsgLampInitFail 29=ErrMsgLampLitFail 30=ErrMsgBallastUart1Error 31=ErrMsgExGpioFail 32=ErrMsgInterLockOpen 33=ErrMsgGF9450NoResponse 34=ErrMsgSystemI2cFail 35=ErrMsgSoftwareI2cFail 36=ErrMsgEepromFail 37=ErrMsgEdidFail 38=ErrMsgEepVersionFail 39=ErrMsgRstGennum 40= ErrMsgLamp2LitFail 41= ErrMsgBallast2UartError 42=ErrMsgGtInletTp 43=ErrMsgGtDmdTp 44=ErrMsgInletTempSensorFail 45=ErrMsgDMDTempSensorFail 46=ErrMsgGeoSystemFail 47=ErrMsgLampDoor1Open 48=ErrMsgLampDoor2Open 49= ErrMsgLCUFail, 50= ErrMsgLCUVerFail 51= ErrMsgLowTempStart 52= ErrMsgDDP3021ASICError 53= ErrMsgDDP3021MainRLDRam 54= ErrMsgDDP3021SlaveRLDRam 55= ErrMsgColorWheelSpin 56= ErrMsgFETempSensorFail 57= ErrMsgOverTempFE 58=ErrMsgColorWheelCover 59=ErrMsgAllBallastUartError 60= ErrMsgHDMIDecoderFail 61= ErrMsgVideoDecoderFail 62= ErrMsgAD9984Fail
remote.set	= ?	1 ~ 10 : Set Projector ID 255 : Clear Projector ID (No ID)
mot.ver	?	Get firmware version of motor board
hw.ver	?	Get hardware version of main PCB

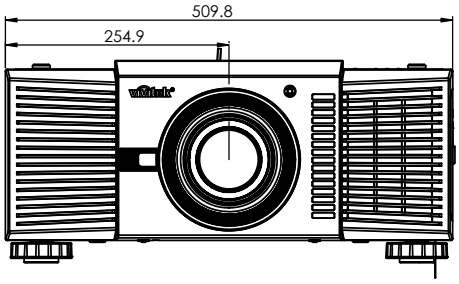
DIMENSIONS

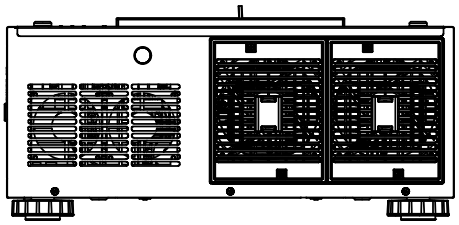

508.8mm
549.2mm

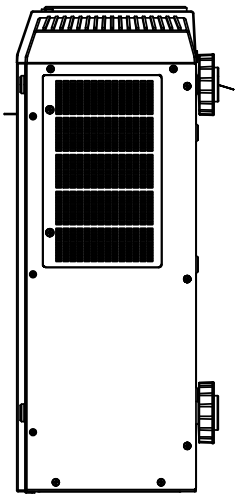

508.8mm
204.9mm

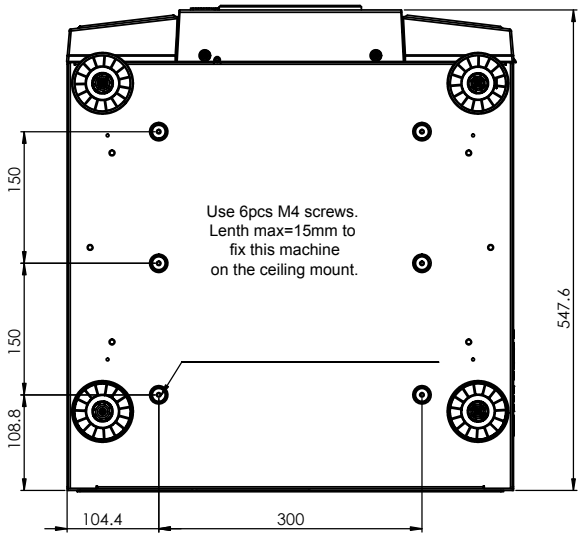

549.2mm
230.3mm

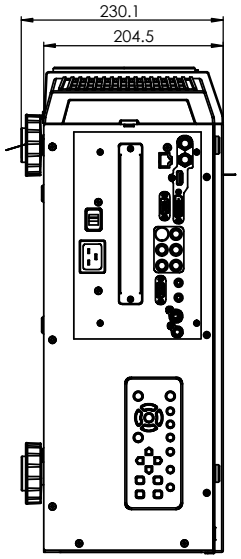

719mm
664mm
417mm

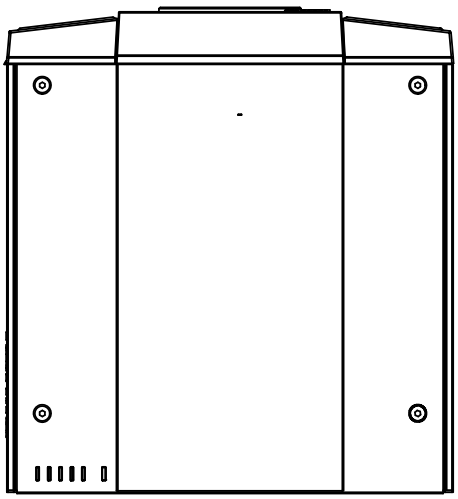

509.8
254.9






Use 6pcs M4 screws.
Lenth max=15mm to
fix this machine
on the ceiling mount.
150
150
108.8
547.6
104.4
300


230.1
204.5



Supported Timings

Signal Type	Resolution	Frame rate	DVI	Video	SCART	S-Video	Y-Pb-Pr	HD15-YUV	HD15-RGB
PC	640x480	59.94	X						X
	640x480	74.99	X						X
	640x480	85	X						X
	800x600	60.32	X						X
	800x600	75	X						X
	800x600	85.06	X						X
	848x480	47.95	X						X
	848x480	59.94	X						X
	1024x768	60	X						X
	1280x1024	60.02	X						X
	1280x1024	75.02	X						X
	1280x1024	85.02	X						X
	1600x1200	60	X						X
	1680x1050	59.954	X						X
	1920x1080	47.95	X						X
Apple Mac	640x480	66.59	X						X
SDTV	RGBs	50			X				
	1440x480i	60	X						
	1440x576i	50	X						
	480i	59.94					X		
	576i	50					X		
EDTV	480p	59.94	X				X	X	X
	576p	50	X				X	X	X
HDTV	1035i	60	X				X	X	X
	1080i	50	X				X	X	X
	1080i (Aus)	50	X				X	X	X
	1080i	59.94	X				X	X	X
	1080i	60	X				X	X	X
	720p	50	X				X	X	X
	720p	59.94	X				X	X	X
	720p	60	X				X	X	X
	1080p	23.98	X				X	X	X
	1080p	24	X				X	X	X
	1080p	25	X				X	X	X
	1080p	29.97	X				X	X	X
	1080p	30	X				X	X	X
	1080p	50	X				X	X	X
	1080p	59.94	X				X	X	X
	1080p	60	X				X	X	X
NTSC	NTSC (M 4.43)	59.94		X		X			
PAL	PAL (B,G,H,I)	50		X		X			
	PAL (N)	50		X		X			
	PAL (M)	59.94		X		X			
SECAM	SECAM (M)	50		X		X			

Projection Distance and Screen Size

Optional Lenses (D88-LOZ101)

Long Zoom 1 Lens Features and Specifications

- **Motorized Zoom and Focus**
- **Lens Shift Position: 0-50% Vertical; +/-10% Horizontal**
- **Focus adjustable Range: 40" - 500"**
- **Optical Performance Range: 50" - 300"**
- **F-Number: 1.85 - 2.41**
- **Focal Length: 52.8-79.1mm**
- **Screen Size: 50"-300"**
- **Zoom Ratio: 1.5:1**
- **Throw Distance Ratio: 3.71-5.57:1(XGA); 3.76-5.64:1(WXGA); 3.58-5.38:1(WUXGA)**

Projection Distance V.S. Projection Size

D88-LOZ101 Long Zoom 1 Lens	XGA		WXGA		WUXGA	
	Projection Distance (m) +/-10%		Projection Distance (m) +/-10%		Projection Distance (m) +/-10%	
Screen Size (inch)	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
	Wide	Tele	Wide	Tele	Wide	Tele
40	2.94	4.49	3.17	4.83	3.01	4.6
50	3.71	5.65	4.00	6.08	3.8	5.78
60	4.48	6.80	4.83	7.32	4.59	6.96
80	6.02	9.12	6.48	9.80	6.16	9.33
100	7.56	11.43	8.14	12.29	7.73	11.7
120	9.10	13.74	9.79	14.77	9.31	14.06
150	11.41	17.21	12.27	18.50	11.67	17.61
180	13.72	20.68	14.75	22.22	14.03	21.16
200	15.26	22.99	16.41	24.71	15.6	23.53
300	22.95	34.56	24.68	37.13	23.47	35.36
400	30.65	46.12	32.95	49.55	31.34	47.19
500	38.34	57.69	41.22	61.97	39.21	59.02

Optional Lenses (D88-LOZ201)

Long zoom 2 Lens Features and Specifications

- **Motorized Zoom and Focus**
- **Lens Shift Position: 0-50% Vertical; +/-10% Horizontal**
- **Focus adjustable Range: 40" - 500"**
- **Optical Performance Range: 50" - 300"**
- **F-Number: 1.85 - 2.48**
- **Focal Length: 78.5-121.9mm**
- **Screen Size: 50"-300"**
- **Zoom Ratio: 1.55:1**
- **Throw Distance Ratio: 5.5-8.56:1(XGA); 5.56-8.67:1(WXGA); 5.31-8.26:1(WUXGA)**

Projection Distance V.S. Projection Size

D88-LOZ201 Long Zoom 2 Lens	XGA		WXGA		WUXGA	
	Projection Distance (m) +/-10%		Projection Distance (m) +/-10%		Projection Distance (m) +/-10%	
Screen Size (inch)	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
	Wide	Tele	Wide	Tele	Wide	Tele
40	4.31	6.89	4.65	7.42	4.42	7.05
50	5.46	8.68	5.89	9.35	5.59	8.89
60	6.61	10.48	7.13	11.28	6.77	10.73
80	8.91	14.07	9.60	15.13	9.13	14.4
100	11.22	17.66	12.08	18.99	11.48	18.07
120	13.52	21.25	14.55	22.85	13.84	21.75
150	16.97	26.64	18.27	28.63	17.37	27.26
180	20.42	32.03	21.98	34.42	20.91	32.77
200	22.73	35.62	24.45	38.28	23.26	36.44
300	34.24	53.57	36.83	57.56	35.04	54.81
400	45.75	71.53	49.20	76.85	46.82	73.18
500	57.26	89.48	61.58	96.13	58.6	91.54

Optional Lenses (D88-SMLZ01)

Semi Long Zoom Lens Features and Specifications

- **Motorized Zoom and Focus**
- **Lens Shift Position: 0-50% Vertical; +/-10% Horizontal**
- **Focus adjustable Range: 40" - 500"**
- **Optical Performance Range: 50" - 300"**
- **F-Number: 1.86 - 2.48**
- **Focal Length: 32.9-54.2mm**
- **Screen Size: 50"-300"**
- **Zoom Ratio: 1.65:1**
- **Throw Distance Ratio: 2.3-3.81(XGA); 2.33-3.86:1(WXGA); 2.22-3.67: 1(WUXGA)**

Projection Distance V.S. Projection Size

D88-SMLZ01 Semi Long Zoom Lens	XGA		WXGA		WUXGA	
	Projection Distance (m) +/-10%		Projection Distance (m) +/-10%		Projection Distance (m) +/-10%	
Screen Size (inch)	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
	Wide	Tele	Wide	Tele	Wide	Tele
40	1.83	3.08	1.97	3.31	1.87	3.15
50	2.30	3.87	2.48	4.16	2.36	3.96
60	2.78	4.66	3.00	5.01	2.85	4.77
80	3.73	6.24	4.02	6.71	3.82	6.39
100	4.69	7.82	5.05	8.41	4.80	8.00
120	5.64	9.40	6.07	10.10	5.78	9.62
150	7.07	11.77	7.61	12.65	7.24	12.04
180	8.50	14.14	9.15	15.19	8.70	14.47
200	9.46	15.72	10.17	16.89	9.68	16.08
300	14.23	23.62	15.30	25.38	14.56	24.16
400	18.99	31.52	20.42	33.86	19.44	32.25
500	23.76	39.42	25.55	42.35	24.32	40.33

Optional Lenses (D88-ST001)

STD Lens Features and Specifications

- **Motorized Zoom and Focus**
- **Lens Shift Position: 0-50% Vertical; +/-10% Horizontal**
- **Focus adjustable Range: 40" - 500"**
- **Optical Performance Range: 50" - 300"**
- **F-Number: 1.7 - 1.9**
- **Focal Length: 26 - 34mm**
- **Screen Size: 50"-300"**
- **Zoom Ratio: 1.3:1**
- **Throw Distance Ratio: 1.79-2.35:1(XGA); 1.81-2.38:1(WXGA); 1.73-2.27:1(WUXGA)**

Projection Distance V.S. Projection Size

D88-ST001 STD Lens	XGA		WXGA		WUXGA	
	Projection Distance (m) +/-10%		Projection Distance (m) +/-10%		Projection Distance (m) +/-10%	
Screen Size (inch)	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
	Wide	Tele	Wide	Tele	Wide	Tele
40	1.42	1.88	1.53	2.03	1.45	1.93
50	1.79	2.37	1.93	2.55	1.83	2.42
60	2.16	2.86	2.33	3.07	2.21	2.92
80	2.90	3.83	3.13	4.12	2.97	3.92
100	3.65	4.80	3.93	5.17	3.73	4.92
120	4.39	5.78	4.72	6.22	4.49	5.91
150	5.50	7.24	5.92	7.79	5.63	7.41
180	6.62	8.70	7.12	9.36	6.77	8.9
200	7.36	9.67	7.92	10.40	7.53	9.9
300	11.07	14.54	11.91	15.64	11.33	14.88
400	14.79	19.41	15.90	20.88	15.13	19.87
500	18.50	24.28	19.90	26.11	18.93	24.85

Optional Lenses (D88-WF18501)

Wide Fix Lens Features and Specifications

- **Motorized Focus**
- **Lens Shift Position: 0%**
- **Focus adjustable Range: 40" - 500"**
- **Optical Performance Range: 50" - 300"**
- **F-Number: 1.85**
- **Focal Length: 11.6mm**
- **Screen Size: 50"-300"**
- **Zoom Ratio: N/A**
- **Throw Distance Ratio: 0.79:1(XGA); 0.8:1(WXGA); 0.76:1(WUXGA)**

Projection Distance V.S. Projection Size

D88-WF18501 Wide Fix Lens	XGA	WXGA	WUXGA
	Projection Distance (m) +/-10%	Projection Distance (m) +/-10%	Projection Distance (m) +/-10%
Screen Size (inch)	Wide	Wide	Wide
40	0.62	0.67	0.64
50	0.79	0.85	0.81
60	0.96	1.03	0.98
80	1.29	1.39	1.32
100	1.62	1.75	1.66
120	1.96	2.11	2.01
150	2.46	2.64	2.52
180	2.96	3.18	3.03
200	3.3	3.54	3.37
300	4.97	5.33	5.08
400	6.64	7.13	6.79
500	8.31	8.92	8.5

Optional Lenses (D88-WZ01)

Wide Zoom Lens Features and Specifications

- **Motorized Zoom and Focus**
- **Lens Shift Position: 0-50% Vertical; +/-10% Horizontal**
- **Focus adjustable Range: 40" - 500"**
- **Optical Performance Range: 50" - 300"**
- **F-Number: 1.85 - 2.5**
- **Focal Length: 18.7-26.5mm**
- **Screen Size: 50"-300"**
- **Zoom Ratio: 1.41:1**
- **Throw Distance Ratio: 1.3-1.85:1(XGA); 1.31-1.87:1(WXGA); 1.25-1.79:1(WUXGA)**

Projection Distance V.S. Projection Size

D88-WZ01 Wide Zoom Lens	XGA		WXGA		WUXGA	
	Projection Distance (m) +/-10%		Projection Distance (m) +/-10%		Projection Distance (m) +/-10%	
Screen Size (inch)	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
	Wide	Tele	Wide	Tele	Wide	Tele
40	1.03	1.49	1.11	1.60	1.02	1.51
50	1.30	1.87	1.40	2.01	1.29	1.9
60	1.57	2.25	1.69	2.43	1.56	2.29
80	2.11	3.02	2.27	3.25	2.1	3.07
100	2.65	3.79	2.85	4.08	2.64	3.85
120	3.18	4.56	3.43	4.90	3.18	4.63
150	3.99	5.71	4.30	6.14	3.99	5.8
180	4.80	6.86	5.17	7.38	4.8	6.97
200	5.34	7.63	5.75	8.20	5.33	7.75
300	8.04	11.47	8.65	12.33	8.03	11.65
400	10.74	15.31	11.55	16.45	10.72	15.56
500	13.44	19.14	14.45	20.58	13.42	19.46

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